



**Washington State  
Department of Transportation**

**Douglas B. MacDonald**  
Secretary of Transportation

**Transportation Building**

310 Maple Park Avenue S.E.  
P.O. Box 47300  
Olympia, WA 98504-7300

360-705-7000  
TTY: 1-800-833-6388  
[www.wsdot.wa.gov](http://www.wsdot.wa.gov)

March 24, 2003

Mr. Tom Fitzsimmons  
Director, Department of Ecology  
P. O. Box 47600  
Olympia, Washington 98504-7600

Dear Mr. Fitzsimmons:

Attached is the completed Washington State Department of Transportation (WSDOT) application for the National Pollutant Discharge Elimination System (NPDES) municipal stormwater and state waste discharge statewide permit. Submittal of this application to the Department of Ecology by March 10, 2003 allows WSDOT to maintain compliance with the NPDES Phase II rule during the permit development process.

WSDOT looks forward to working with the Department of Ecology on this new statewide permit. The WSDOT staff contact for development of this permit is Mr. Larry Schaffner, Stormwater Team Lead in the Environmental Affairs Office. Mr. Schaffner can be reached at 360-570-6657.

Sincerely,

A handwritten signature in black ink, appearing to read 'Doug B. MacDonald'.

Douglas B. MacDonald  
Secretary of Transportation

DBM/LS:ja  
Enclosures

cc: John Conrad, WSDOT (47316)  
Brian Ziegler, WSDOT (47350)  
Don Nelson, WSDOT (47324)  
Jerry Alb, WSDOT (47331)

March 10, 2003



## **National Pollutant Discharge Elimination System (NPDES) and State Waste Discharge State-wide Municipal Stormwater Permit Application for Washington State Department of Transportation**

This purpose of this application is for the Washington state Department of Transportation (WSDOT) to apply for a National Pollutant Discharge Elimination System (NPDES) permit to discharge stormwater runoff from municipal separate storm sewer systems (MS4s) serving state highways and related facilities. This permit is intended to cover WSDOT facilities state-wide, including phase 1 areas, phase 2 areas, and the remainder of the state. The Department of Ecology may request additional information during development of the permit.

WSDOT must complete this application, based on existing information, and return it to the Department of Ecology **before March 10, 2003.**

An authorized signature is needed to complete the application. As much information as possible should be included on this form. Supporting documents may also be provided.

Mail completed application to:

**Department of Ecology  
Water Quality Program  
PO Box 47600  
Olympia, WA 98504-7600**

Ecology will send you an acknowledgment of receipt. If you have questions about this application, please contact Ann Wessel at (360) 407-6457 or email her at [awes461@ecy.wa.gov](mailto:awes461@ecy.wa.gov).

### **Part I. General Information**

#### **1. MS4 Operator**

Washington State Department of Transportation  
Street Address:  
City, State, Zip:

Headquarters Office  
310 Maple Park Avenue S.E.  
Olympia, WA 98504



**2. Staff contact (person responsible for program implementation and coordination):****Name:** Kenneth M. Stone**Phone:** 360/570-6642**Title:** Project Services Branch Manager**E-mail:** stonek@wsdot.wa.gov**Are there regional WSDOT staff contacts?** If yes, please list names and contact information.☒ Yes / ☐ No

Name	Region	Title	Phone	Email
Larry Schaffner	HQ, Enviro. Affairs	Stormwater Team Leader	360/570-6657	schaffl@wsdot.wa.gov
T. Michael Stephens	HQ, Enviro. Affairs	HazMat/Water Quality Program Mang.	360/570-6656	stephem@wsdot.wa.gov
Douglas Pierce	HQ, Hwy. Maintenance	Environmental Services Manager	360/705-7812	piercedl@wsdot.wa.gov
Tina Stotz	WA State Ferries	Environmental Program Manager	206/515/3827	stotzti@wsdot.wa.gov
Michelle Anderson	Eastern Region	Acting Reg. Environmental Manager	509/324-6134	andermc@wsdot.wa.gov
Clayton Belmont	North Central Region	Region Environmental Manager	509/667-3055	belmonc@wsdot.wa.gov
Gary Beeman	South Central Region	Region Environmental Manager	509/577-1750	beemang@wsdot.wa.gov
Becky Michaliszyn	Southwest Region	Region Environmental Manager	360/9(05-2174	michalb@wsdot.wa.gov
Martin Palmer	Northwest Region	Region Environmental Manager	260/440-4548	palmema@wsdot.wa.gov
Jeff Sawyer	Olympic Region	Region Environmental Manager	360/357-2713	sawyerj@wsdot.wa.gov

**Is your SWMP available on a web site?** (If yes, list address \_\_)☐ Yes / ☒ No

<b>3</b>	<b>Description of Storm Sewer System</b>				
<b>A. Areas served by your MS4.</b>					
	Miles of State Highway	7,063 total highway miles	18,072 total lane miles		
	Number of Maintenance Facilities*	50 (known or suspected to have MS4; need to field verify at some facilities)			
	Number of Ferry Terminals	19 (may or may not have MS4)			
	Number of Rest Areas*	17 (known or suspected to have MS4; need to field verify at some facilities)			
	Number of Weigh Stations	None, Washington State Patrol designs, builds, and owns these facilities			
	Number of Park and Ride Lots	115 (may or may not have MS4)			
	* Only facilities with municipal separate storm sewer systems (MS4)				
<b>B. Storm Drainage Infrastructure:</b>					
<b>Please provide estimates, using the most accurate information available at this time, for the following storm drainage infrastructure features owned or operated by WSDOT.</b>					
	<b>Conveyance system:</b>		<b>Flow Control system:</b>		
	Open ditches (miles or feet)	~7,250 miles <sup>†</sup>	Detention and Retention facilities (estimate number operated by MS4)	~91*	
	Storm sewers (miles or feet)	Not avail.			<b>Regional Facilities:</b>
	Outfalls (estimate number)	~20,000 ±5,000	<b>Treatment system:</b>		Unknown
	Catch basins (estimate number)	~33,500 <sup>†</sup>	Treatment facilities (estimate number operated by MS4. If estimate is not available, explain.)	Not available <sup>‡</sup>	
<sup>†</sup> Surveyed of 200 miles of highways and then extrapolated to generate these estimates. <sup>‡</sup> Bioswales and filter strips are lumped together as part of the open ditch category. *Detention and retention facilities are inventoried as part of the outfall inventory effort.					



4.	Map Requirements:
	<p><b>Include maps of each WSDOT Region that identify:</b></p> <ul style="list-style-type: none"> <li>• State right-of-ways <ul style="list-style-type: none"> <li>○ AADT – &lt;10K <ul style="list-style-type: none"> <li>▪ 10 – 50K</li> <li>▪ 50 – 100K</li> <li>▪ &gt;100K</li> </ul> </li> </ul> </li> <li>• Rest Areas</li> <li>• Weigh Stations (<i>Not applicable. Washington State Patrol designs, builds, and owns these facilities</i>)</li> <li>• Ferry Terminals</li> <li>• Maintenance Facilities</li> <li>• Park and Ride Lots</li> <li>• Receiving Waters <ul style="list-style-type: none"> <li>○ 303(d) listings (<i>Shown on the “Inventoried Stormwater Outfall” map</i>)</li> </ul> </li> <li>• Counties</li> <li>• Phase 1 municipalities</li> <li>• Urbanized area (as defined by the 2000 Census)</li> <li>• Indian Reservations</li> </ul> <p><b>Include a map (or maps) showing areas of the state where WSDOT has mapped outfalls. The intent is to show the extent of outfall mapping, and where mapping is needed.</b></p> <p><b>Please assure that information is clearly readable. Submit GIS maps if available, in 300dpi .jpg format. Use print formatting when exporting to adobe acrobat. Maps must be of the same page size.</b></p>

See Exhibit 1 for a copy of the maps.



5. List all named receiving waters that are within 600' of WSDOT highways, roads, rest areas, weigh stations, ferry terminals, park and ride lots, and maintenance facilities and are identified as impaired pursuant to Clean Water Act Section 303(d), and those with an existing Total Maximum Daily Load (TMDL). In areas where WSDOT has mapped outfalls, list all named receiving waters that receive WSDOT stormwater discharges, and are identified as impaired pursuant to Clean Water Act Section 303(d) and those with an existing TMDL. This information is available at: [www.ecy.wa.gov/programs/wq/links/impaired\\_wtrs.html](http://www.ecy.wa.gov/programs/wq/links/impaired_wtrs.html).

## IMPAIRED WATER BODIES WITHIN 600 FEET OF WSDOT FACILITIES

NOTE: Discharge to receiving waters determinations requires field verification. In several instances, the Ecology database used for this assessment contained gaps for the *WBID* and/or *water body name* fields.

### Lakes

WRIA	WTRBDY_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
7	010QMB	WA-07-9060	BLACKMANS LAKE	Total Phosphorus	Water	No
7	010QMB	WA-07-9060	BLACKMANS LAKE	Fecal Coliform	Water	No
8	670DAB	WA-08-9150	GREEN LAKE	Sediment Bioassay	Sediment	No
8	414VNQ	WA-08-9280	SCRIBER LAKE	Dieldrin	Tissue	No
8	740PLK	WA-08-9300	SILVER LAKE	4,4'-DDD	Water	No
8	043HCN	WA-08-9340	UNION, LAKE	4,4'-DDE	Water	No
8	043HCN	WA-08-9340	UNION, LAKE	Ammonia-N	Water	No
9	148NFC	WA-09-9160	MERIDIAN, LAKE	Total Phosphorus	Water	No
9	148NFC	WA-09-9160	MERIDIAN, LAKE	Fecal Coliform	Water	No
11	792UHY	WA-11-9040	CLEAR LAKE	Total Phosphorus	Water	No
12	186SBC	WA-12-9060	SNAKE LAKE	Dissolved Oxygen	Water	No
12	186SBC	WA-12-9060	SNAKE LAKE	Fecal Coliform	Water	No
12	186SBC	WA-12-9060	SNAKE LAKE	Total Phosphorus	Water	No
13	601ADB	WA-13-9020	CAPITOL LAKE	Total Phosphorus	Water	No
25	837NAY	WA-25-9010	SACAJAWEA, LAKE	Total Phosphorus	Water	No
25	837NAY	WA-25-9010	SACAJAWEA, LAKE	Fecal Coliform	Water	No
25	837NAY	WA-25-9010	SACAJAWEA, LAKE	Total Phosphorus	Water	No
25	837NAY	WA-25-9010	SACAJAWEA, LAKE	4,4'-DDE	Tissue	No
38	130UZL	WA-38-9080	MYRON, LAKE	Chlordane	Tissue	No
49	060VKD	WA-49-9260	OSOYOOS LAKE	PCB-1254	Tissue	No
49	060VKD	WA-49-9260	OSOYOOS LAKE	PCB-1260	Tissue	No

### Rivers & Streams

WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
3	RE17FI	None11	?	Temperature	Water	No
4	EH12BY	None14	?	Temperature	Water	No
4	WY11LD	None15	?	Temperature	Water	No
1	CT99ZQ	None2	?	Fecal Coliform	Water	No
1	CT99ZQ	None2	?	Dissolved Oxygen	Water	No
5	QE93BW	None20	?	Fecal Coliform	Water	No
5	QE93BW	None20	?	Fecal Coliform	Water	No
9	BP27QP	None23	?	Fecal Coliform	Water	No
9	BP27QP	None23	?	Dissolved Oxygen	Water	No
9	BP27QP	None23	?	Temperature	Water	No
1	PC85CB	None4	?	Fecal Coliform	Water	No
15	YF74OD	None43	?	Temperature	Water	No
17	LN92UA	None49	?	Temperature	Water	No



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WRIA	WTRCRS_Nr	WBID	WATERBODY NAME	PARAMETER	MEDIUM	MDL?
24	ZR45OU	None50	?	Temperature	Water	No
24	XG35GL	None52	?	Temperature	Water	No
28	YI74SA	None56	?	pH	Water	No
28	YI74SA	None56	?	Dissolved Oxygen	Water	No
28	YI74SA	None56	?	Temperature	Water	No
3	TL30EW	None6	?	Temperature	Water	No
52	ZZ22OX	None67	?	Dissolved Oxygen	Water	No
24	YF44AK	None76	?	Azinphos-Methyl	Water	No
24	YF44AK	None76	?	Diazinon	Water	No
24	YF44AK	None76	?	Chlorpyrifos	Water	No
24	YF44AK	None76	?	Carbaryl	Water	No
24	YF44AK	None76	?	4,4'-DDD	Water	No
3	UT72SQ	None9	?	Temperature	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	Dissolved Oxygen	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	Fecal Coliform	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	pH	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	pH	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	Fecal Coliform	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	Dissolved Oxygen	Water	No
1	QG38LP	WA-01-1015	KAMM SLOUGH	pH	Water	No
1	OS27OC	WA-01-1080	NOOKSACK RIVER	Fine Sediment	Water	No
1	WO95OB	WA-01-1101	SILVER CREEK	Dissolved Oxygen	Water	No
1	WO95OB	WA-01-1101	SILVER CREEK	Fecal Coliform	Water	No
1	WO95OB	WA-01-1101	SILVER CREEK	Dissolved Oxygen	Water	No
1	MI36KN	WA-01-1110	BERTRAND CREEK	Fecal Coliform	Water	No
1	MI36KN	WA-01-1110	BERTRAND CREEK	Ammonia-N	Water	No
1	KG72JQ	WA-01-1111	DUFFNER DITCH	Fecal Coliform	Water	No
1	KG72JQ	WA-01-1111	DUFFNER DITCH	Dissolved Oxygen	Water	No
1	RN53NC	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	RN53NC	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	RN53NC	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	RN53NC	WA-01-1115	FISHTRAP CREEK	Instream Flow	Habitat	No
1	RN53NC	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	UI16IQ	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	UI16IQ	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	UI16IQ	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	UI16IQ	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
1	LN43IE	WA-01-1116	DOUBLE DITCH DRAIN	Fecal Coliform	Water	No
1	LN43IE	WA-01-1116	DOUBLE DITCH DRAIN	Fecal Coliform	Water	No
1	LN43IE	WA-01-1116	DOUBLE DITCH DRAIN	Fecal Coliform	Water	No
1	MI36KN	WA-01-1116	DOUBLE DITCH DRAIN	Fecal Coliform	Water	No
1	GP43XI	WA-01-1117	BENDER ROAD DITCH	Dissolved Oxygen	Water	No
1	NK26OD	WA-01-1118	DEPOT ROAD DITCH	Fecal Coliform	Water	No
1	UI16IQ	WA-01-1119	bender road ditch	Fecal Coliform	Water	No
1	MU69PG	WA-01-1120	ANDERSON CREEK	Temperature	Water	No
1	AG28YU	WA-01-1155	BOULDER CREEK	Temperature	Water	No
1	RQ36PH	WA-01-1170	CORNELL CREEK	Temperature	Water	No
1	EO08VO	WA-01-1175	GALLOP CREEK	Temperature	Water	No
1	PL43AX	WA-01-2020	JOHNSON CREEK	Fecal Coliform	Water	Yes



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
1	PL43AX	WA-01-2020	JOHNSON CREEK	Dissolved Oxygen	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Fecal Coliform	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Dissolved Oxygen	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Dissolved Oxygen	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Fecal Coliform	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Dissolved Oxygen	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Dissolved Oxygen	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Fecal Coliform	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Fecal Coliform	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Dissolved Oxygen	Water	Yes
1	PL43AX	WA-01-2020	JOHNSON CREEK	Fecal Coliform	Water	Yes
1	MS54MP	WA-01-2030	SUMAS CREEK	Fecal Coliform	Water	No
1	GF74PM	WA-01-2050	SQUAW CREEK	Fecal Coliform	Water	No
1	GF74PM	WA-01-2050	SQUAW CREEK	pH	Water	No
1	GF74PM	WA-01-2050	SQUAW CREEK	Fecal Coliform	Water	No
1	EZ19GC	WA-01-3110	WHATCOM CREEK	Temperature	Water	No
1	EZ19GC	WA-01-3110	WHATCOM CREEK	Fecal Coliform	Water	No
3	YA61IC	WA-03-1011	CARPENTER CREEK	Temperature	Water	No
3	YA61IC	WA-03-1011	CARPENTER CREEK	Temperature	Water	No
3	LZ60MT	WA-03-1017	NOOKACHAMPS CREEK	Temperature	Water	No
3	LZ60MT	WA-03-1017	NOOKACHAMPS CREEK	Temperature	Water	No
3	LZ60MT	WA-03-1017	NOOKACHAMPS CREEK	Temperature	Water	No
3	ZZ50GP	WA-03-1017	NOOKACHAMPS CREEK	Temperature	Water	No
3	PU87PF	WA-03-1019	HANSEN CREEK	Temperature	Water	No
3	PU87PF	WA-03-1019	HANSEN CREEK	Fish Habitat	Habitat	No
3	DV97DN	WA-03-4200	?	Temperature	Water	No
5	QE93BW	WA-05-1010	STILLAGUAMISH RIVER	Fecal Coliform	Water	No
5	QE93BW	WA-05-1010	STILLAGUAMISH RIVER	Temperature	Water	No
5	QE93BW	WA-05-1010	STILLAGUAMISH RIVER	Arsenic	Water	No
5	QE93BW	WA-05-1010	STILLAGUAMISH RIVER	Temperature	Water	No
5	QE93BW	WA-05-1010	STILLAGUAMISH RIVER	Fecal Coliform	Water	No
5	GH05SX	WA-05-1012	JORGENSEN SLOUGH/CHURCH CREEK	Fecal Coliform	Water	No
5	GH05SX	WA-05-1012	JORGENSEN SLOUGH/CHURCH CREEK	Fecal Coliform	Water	No
5	GH05SX	WA-05-1012	JORGENSEN SLOUGH/CHURCH CREEK	Fecal Coliform	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Turbidity	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Turbidity	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Dissolved Oxygen	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5	OT80TY	WA-05-1015	PORTAGE CREEK	Dissolved Oxygen	Water	No
5	VJ74AO	WA-05-1018	?	Temperature	Water	No
5	VJ74AO	WA-05-1018	?	Dissolved Oxygen	Water	No
5	WO38NV	WA-05-1020	STILLAGUAMISH RIVER, N.F.	Fecal Coliform	Water	No
5	PA13UD	WA-05-1021	DEER CREEK	Temperature	Water	No
5	SN06ZT	WA-05-1040	STILLAGUAMISH RIVER, S.F.	Fecal Coliform	Water	No
5	SN06ZT	WA-05-1040	STILLAGUAMISH RIVER, S.F.	pH	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
5	SN06ZT	WA-05-1040	STILLAGUAMISH RIVER, S.F.	Temperature	Water	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Fecal Coliform	Water	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Temperature	Water	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Temperature	Water	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Arsenic	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Acenaphthene	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Fluorene	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Dibenzofuran	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Phenanthrene	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Naphthalene	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	2-Methylnaphthalene	Sediment	No
7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Copper	Sediment	No
7	PR16VH	WA-07-1011	EBEY SLOUGH	pH	Water	No
7	PR16VH	WA-07-1011	EBEY SLOUGH	Fecal Coliform	Water	No
7	PR16VH	WA-07-1011	EBEY SLOUGH	Dissolved Oxygen	Water	No
7	PR16VH	WA-07-1011	EBEY SLOUGH	Water Column Bioassay	Water	No
7	YT94RF	WA-07-1012	ALLEN CREEK	Dissolved Oxygen	Water	No
7	YT94RF	WA-07-1012	ALLEN CREEK	Fecal Coliform	Water	Yes
7	MM28XN	WA-07-1015	QUILCEDA CREEK	Dissolved Oxygen	Water	No
7	MM28XN	WA-07-1015	QUILCEDA CREEK	Fecal Coliform	Water	Yes
7	TH58TS	WA-07-1015	QUILCEDA CREEK	Dissolved Oxygen	Water	No
7	FZ74HO	WA-07-1019	WOOD CREEK (MARSHLANDS)	Dissolved Oxygen	Water	No
7	JX500E	WA-07-1050	SNOHOMISH RIVER	Copper	Water	No
7	JX500E	WA-07-1050	SNOHOMISH RIVER	Mercury	Water	No
7	XZ24XU	WA-07-1052	FRENCH CREEK	Dissolved Oxygen	Water	No
7	XZ24XU	WA-07-1052	FRENCH CREEK	Dissolved Oxygen	Water	No
7	XZ24XU	WA-07-1052	FRENCH CREEK	Fecal Coliform	Water	Yes
7	XZ24XU	WA-07-1052	FRENCH CREEK	Fecal Coliform	Water	Yes
7	QW73YS	WA-07-1100	SNOQUALMIE RIVER	Temperature	Water	No
7	QW73YS	WA-07-1100	SNOQUALMIE RIVER	Temperature	Water	No
7	UC46QU	WA-07-1120	SNOQUALMIE RIVER, S.F.	pH	Water	No
7	UC46QU	WA-07-1120	SNOQUALMIE RIVER, S.F.	pH	Water	No
7	UC46QU	WA-07-1120	SNOQUALMIE RIVER, S.F.	Temperature	Water	No
7	AO37WJ	WA-07-1160	SKYKOMISH RIVER	Copper	Water	No
7	AO37WJ	WA-07-1160	SKYKOMISH RIVER	Silver	Water	No
7	AO37WJ	WA-07-1160	SKYKOMISH RIVER	Lead	Water	No
7	AO37WJ	WA-07-1160	SKYKOMISH RIVER	Fecal Coliform	Water	No
7	FZ74HO	WA-07-1163	WOODS CREEK	Fecal Coliform	Water	Yes
7	FZ74HO	WA-07-1163	WOODS CREEK	Fecal Coliform	Water	Yes
7	AO37WJ	WA-07-1200	SKYKOMISH RIVER	Temperature	Water	No
7	AO37WJ	WA-07-1200	SKYKOMISH RIVER	Fecal Coliform	Water	No
8	WA69TP	WA-08-1010	JUANITA CREEK	Fecal Coliform	Water	No
8	DG67DF	WA-08-1016	FAIRWEATHER BAY CREEK	Temperature	Water	No
8	DG67DF	WA-08-1016	FAIRWEATHER BAY CREEK	Fecal Coliform	Water	No
8	CF07LH	WA-08-1030	McALEER CREEK	Fecal Coliform	Water	No
8	AS70QO	WA-08-1040	LYON CREEK	Fecal Coliform	Water	No
8	GJ57UL	WA-08-1060	SWAMP CREEK	Dissolved Oxygen	Water	No
8	SM74QQ	WA-08-1065	NORTH CREEK	Dissolved Oxygen	Water	No
8	SM74QQ	WA-08-1065	NORTH CREEK	Fecal Coliform	Water	Yes



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
8	CA16HI	WA-08-1070	SAMMAMISH RIVER	Fecal Coliform	Water	No
8	CA16HI	WA-08-1070	SAMMAMISH RIVER	Temperature	Water	No
8	CA16HI	WA-08-1070	SAMMAMISH RIVER	Dissolved Oxygen	Water	No
8	UT96KR	WA-08-1085	LITTLE BEAR CREEK	Fecal Coliform	Water	No
8	UT96KR	WA-08-1085	LITTLE BEAR CREEK	Fecal Coliform	Water	No
8	MI67EG	WA-08-1095	BEAR-EVANS CREEKS	Fecal Coliform	Water	No
8	WR69YU	WA-08-1095	BEAR-EVANS CREEKS	Fecal Coliform	Water	No
8	WR69YU	WA-08-1095	BEAR-EVANS CREEKS	Mercury	Water	No
8	CA16HI	WA-08-1100	SAMMAMISH RIVER	Fecal Coliform	Water	No
8	CA16HI	WA-08-1100	SAMMAMISH RIVER	Fecal Coliform	Water	No
8	CA16HI	WA-08-1100	SAMMAMISH RIVER	pH	Water	No
8	CA16HI	WA-08-1100	SAMMAMISH RIVER	Temperature	Water	No
8	CZ80NC	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
8	TF31OB	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
8	TF31OB	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
8	TF31OB	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
8	MB51QQ	WA-08-1115	TIBBETS CREEK	Fecal Coliform	Water	No
8	CH04NG	WA-08-1120	COAL CREEK	Fecal Coliform	Water	No
8	BG47ND	WA-08-1130	MAY CREEK	Temperature	Water	No
8	BH96KG	WA-08-1130	MAY CREEK	Copper	Water	No
8	BH96KG	WA-08-1130	MAY CREEK	Lead	Water	No
8	BH96KG	WA-08-1130	MAY CREEK	Zinc	Water	No
8	BH96KG	WA-08-1130	MAY CREEK	Copper	Water	No
8	BH96KG	WA-08-1130	MAY CREEK	Lead	Water	No
8	BH96KG	WA-08-1130	MAY CREEK	Temperature	Water	No
8	JG09GH	WA-08-1145	CEDAR RIVER	Fecal Coliform	Water	No
8	CK50FE	WA-08-2100	MERCER SLOUGH	Fecal Coliform	Water	No
8	CK50FE	WA-08-2100	MERCER SLOUGH	pH	Water	No
9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	pH	Water	No
9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	Fecal Coliform	Water	No
9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	pH	Water	No
9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	pH	Water	No
9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	pH	Water	No
9	SJ46KE	WA-09-1010	DUWAMISH WATERWAY AND RIVER	Dissolved Oxygen	Water	No
9	SJ46KE	WA-09-1010	DUWAMISH WATERWAY AND RIVER	Fecal Coliform	Water	No
9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Temperature	Water	No
9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Chromium	Water	No
9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Cadmium	Water	No
9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Fecal Coliform	Water	No
9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Mercury	Water	No
9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Zinc	Water	No
9	TS53NN	WA-09-1015	SPRINGBROOK (MILL) CREEK	Sediment Bioassay	Sediment	No
9	TS53NN	WA-09-1015	SPRINGBROOK (MILL) CREEK	Cadmium	Water	No
9	TS53NN	WA-09-1015	SPRINGBROOK (MILL) CREEK	Copper	Water	No
9	TS53NN	WA-09-1015	SPRINGBROOK (MILL) CREEK	Zinc	Water	No
8	XN07SY	WA-09-1015	SPRINGBROOK (MILL) CREEK	Fecal Coliform	Water	No
8	XN07SY	WA-09-1015	SPRINGBROOK (MILL) CREEK	Dissolved Oxygen	Water	No
9	FK76HV	WA-09-1020	GREEN RIVER	Temperature	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Chromium	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
9	YD05HE	WA-09-1020	GREEN RIVER	Temperature	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Fecal Coliform	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Fecal Coliform	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Mercury	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Temperature	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Mercury	Water	No
9	YD05HE	WA-09-1020	GREEN RIVER	Fecal Coliform	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Dissolved Oxygen	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Temperature	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Dissolved Oxygen	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Temperature	Water	No
9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Dissolved Oxygen	Water	No
9	GS67LK	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
9	GS67LK	WA-09-1026	SOOS CREEK	Dissolved Oxygen	Water	No
9	HH34YJ	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
9	NP20EM	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
9	TI91MT	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
9	VY43OI	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
9	VX71MY	WA-09-2000	DES MOINES CREEK	Fecal Coliform	Water	No
9	IF38BT	WA-09-2020	REDONDO CREEK	Fecal Coliform	Water	No
10	CN61UF	WA-09-2030	LAKOTA CREEK	Fecal Coliform	Water	No
10	GV05FS	WA-09-2040	JOE'S CREEK	Fecal Coliform	Water	No
10	RL09XF	WA-10-1011	HYLEBOS CREEK	Fecal Coliform	Water	No
10	ZV38XK	WA-10-1012	FIFE DITCH	Ammonia-N	Water	No
10	ZV38XK	WA-10-1012	FIFE DITCH	Dissolved Oxygen	Water	No
10	ZV38XK	WA-10-1012	FIFE DITCH	Fecal Coliform	Water	No
10	ZV38XK	WA-10-1012	FIFE DITCH	Instream Flow	Habitat	No
10	BT61HR	WA-10-1013	HYLEBOS CREEK, W.F.	Fecal Coliform	Water	No
10	MM40DB	WA-10-1015	WAPATO CREEK	Dissolved Oxygen	Water	No
10	MM40DB	WA-10-1015	WAPATO CREEK	Fecal Coliform	Water	No
10	MM40DB	WA-10-1015	WAPATO CREEK	Instream Flow	Habitat	No
10	MM40DB	WA-10-1015	WAPATO CREEK	Instream Flow	Habitat	No
10	MM40DB	WA-10-1015	WAPATO CREEK	Instream Flow	Habitat	No
10	ZV38XK	WA-10-1015	WAPATO CREEK	Instream Flow	Habitat	No
10	PX29AG	WA-10-1020	PUYALLUP RIVER	Fecal Coliform	Water	No
10	PX29AG	WA-10-1020	PUYALLUP RIVER	Arsenic	Water	No
10	PX29AG	WA-10-1020	PUYALLUP RIVER	Fecal Coliform	Water	No
10	PX29AG	WA-10-1020	PUYALLUP RIVER	Fecal Coliform	Water	No
10	UP04FV	WA-10-1021	CLEAR CREEK	Fecal Coliform	Water	No
10	YA22IG	WA-10-1022	SWAN CREEK	Fecal Coliform	Water	No
10	YA22IG	WA-10-1022	SWAN CREEK	Fecal Coliform	Water	No
10	AD37IU	WA-10-1025	CLARKS CREEK	Fecal Coliform	Water	No
10	LY34GL	WA-10-1030	WHITE RIVER	Fecal Coliform	Water	No
10	LY34GL	WA-10-1030	WHITE RIVER	Fecal Coliform	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
10	AG77JE	WA-10-1081	VOIGHTS CREEK	Temperature	Water	No
10	VC19MO	WA-10-1085	SOUTH PRAIRIE CREEK	Fecal Coliform	Water	No
10	NX07HW	WA-10-1087	?	Copper	Water	No
11	LD26OX	WA-11-2000	?	Dissolved Oxygen	Water	No
11	LD26OX	WA-11-2000	?	Fecal Coliform	Water	No
11	LD26OX	WA-11-2000	?	Fecal Coliform	Water	No
11	LD26OX	WA-11-2000	?	Dissolved Oxygen	Water	No
12	PS92IZ	WA-12-1115	CLOVER CREEK	Dissolved Oxygen	Water	No
12	PS92IZ	WA-12-1115	CLOVER CREEK	Fecal Coliform	Water	No
12	PS92IZ	WA-12-1115	CLOVER CREEK	Temperature	Water	No
13	TM40PW	WA-13-1010	DESCHUTES RIVER	Temperature	Water	No
13	TM40PW	WA-13-1010	DESCHUTES RIVER	pH	Water	No
13	TM40PW	WA-13-1010	DESCHUTES RIVER	Fecal Coliform	Water	No
13	TM40PW	WA-13-1010	DESCHUTES RIVER	Temperature	Water	No
13	ST93WM	WA-13-1020	DESCHUTES RIVER	Temperature	Water	No
13	KX91JE	WA-13-1300	INDIAN CREEK	Fecal Coliform	Water	No
14	ER21HD	WA-14-1200	SCHNEIDER CREEK	pH	Water	No
14	BI64LF	WA-14-1400	?	Fecal Coliform	Water	No
14	JZ99VQ	WA-14-1650	SHELTON CREEK	Fecal Coliform	Water	No
14	HL04LK	WA-14-2010	TWANOH FALLS CREEK	pH	Water	No
15	UM57RJ	WA-15-1015	PURDY CREEK	Fecal Coliform	Water	No
15	SB72ZI	WA-15-1060	LITTLE MISSION CREEK	pH	Water	No
15	BH24TJ	WA-15-1300	MINTER CREEK	Fecal Coliform	Water	No
15	QB57UD	WA-15-1350	LITTLE MINTER CREEK	Fecal Coliform	Water	No
15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
15	MF56EG	WA-15-2010	UNION RIVER	Fecal Coliform	Water	Yes
15	AE23TW	WA-15-2030	DOGFISH CREEK	Fecal Coliform	Water	No
15	GV14QM	WA-15-2030	DOGFISH CREEK	Fecal Coliform	Water	No
15	GV14QM	WA-15-2030	DOGFISH CREEK	Fecal Coliform	Water	No
15	OQ62QE	WA-15-2030	DOGFISH CREEK	Fecal Coliform	Water	No
15	OQ62QE	WA-15-2030	DOGFISH CREEK	Fecal Coliform	Water	No
15	YS04BH	WA-15-2030	DOGFISH CREEK	Fecal Coliform	Water	No
15	WT04RS	WA-15-4000	GORST CREEK	Fecal Coliform	Water	No
15	LK41ZU	WA-15-4200	BLACKJACK CREEK	Fecal Coliform	Water	No
15	LK41ZU	WA-15-4200	BLACKJACK CREEK	Fecal Coliform	Water	No
15	CS87QP	WA-15-4400	ANNAPOLIS CREEK	Fecal Coliform	Water	No
15	DT92SL	WA-15-5000	CLEAR CREEK	Fecal Coliform	Water	No
15	DT92SL	WA-15-5000	CLEAR CREEK	Fecal Coliform	Water	No
15	TF15AC	WA-15-5000	CLEAR CREEK	Fecal Coliform	Water	No
15	TF15AC	WA-15-5000	CLEAR CREEK	Fecal Coliform	Water	No
15	IQ67FF	WA-15-5100	BARKER CREEK	Fecal Coliform	Water	No
15	IQ67FF	WA-15-5100	BARKER CREEK	Fecal Coliform	Water	No
15	IQ67FF	WA-15-5100	BARKER CREEK	Fecal Coliform	Water	No
15	IQ67FF	WA-15-5100	BARKER CREEK	Fecal Coliform	Water	No
15	PQ58EB	WA-15-7500	?	Temperature	Water	No
16	WW06HB	WA-16-1010	SKOKOMISH RIVER	Fecal Coliform	Water	Yes
16	WW06HB	WA-16-1010	SKOKOMISH RIVER	Fecal Coliform	Water	Yes



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
16	WW06HB	WA-16-1010	SKOKOMISH RIVER	Fecal Coliform	Water	Yes
16	MJ89JI	WA-16-1013	PURDY CREEK	Fecal Coliform	Water	Yes
17	PL66WB	WA-17-1000	MARPLE CREEK	Fish Habitat	Habitat	No
17	EL58TS	WA-17-1010	BIG QUILCENE RIVER	Instream Flow	Habitat	No
17	KC32MC	WA-17-2200	CHICKEN COOP CREEK	Fecal Coliform	Water	No
17	JD02NV	WA-17-3010	CHIMACUM CREEK	Temperature	Water	No
17	MB88JL	WA-17-3010	CHIMACUM CREEK	Fecal Coliform	Water	No
17	MB88JL	WA-17-3010	CHIMACUM CREEK	Temperature	Water	No
17	BV22BE	WA-17-4000	JOHNSON CREEK	Fecal Coliform	Water	No
18	YM49RG	WA-18-1600	BAGLEY CREEK	Fecal Coliform	Water	No
18	XN56VX	WA-18-1900	DRY CREEK	Temperature	Water	No
18	PB56KA	WA-18-2010	ELWHA RIVER	PCB-1254	Water	No
19	YZ08ZH	WA-19-2500	SEKIU RIVER	Temperature	Water	No
19	NY49PY	WA-19-5000	CLALLAM RIVER	Temperature	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Dissolved Oxygen	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Temperature	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Dissolved Oxygen	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Temperature	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Dissolved Oxygen	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Temperature	Water	No
20	EC91QM	WA-20-1020	SOLDUCK RIVER	Temperature	Water	No
20	PP27XG	WA-20-1030	BOGACHIEL RIVER	Temperature	Water	No
20	PP27XG	WA-20-1030	BOGACHIEL RIVER	Dissolved Oxygen	Water	No
20	PP27XG	WA-20-1030	BOGACHIEL RIVER	Temperature	Water	No
20	PP27XG	WA-20-1030	BOGACHIEL RIVER	Temperature	Water	No
20	MF35YT	WA-20-2150	NOLAN CREEK	Temperature	Water	No
21	HO29SJ	WA-21-4000	JOE CREEK	Fecal Coliform	Water	No
21	HO29SJ	WA-21-4000	JOE CREEK	Dissolved Oxygen	Water	No
22	DS29ZH	WA-22-0030	GRAYS HARBOR (INNER)	Fecal Coliform	Water	No
22	NY74PY	WA-22-1010	HUMPTULIPS RIVER	Temperature	Water	Yes
22	QS65DS	WA-22-4045	WILDCAT CREEK	Temperature	Water	Yes
23	DS29ZH	WA-23-1010	CHEHALIS RIVER	Temperature	Water	No
23	DS29ZH	WA-23-1010	CHEHALIS RIVER	Fecal Coliform	Water	No
23	DS29ZH	WA-23-1010	CHEHALIS RIVER	Temperature	Water	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	PCB-1254	Tissue	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	Fecal Coliform	Water	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	Temperature	Water	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	PCB-1260	Tissue	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	Temperature	Water	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	Temperature	Water	No
23	DS29ZH	WA-23-1020	CHEHALIS RIVER	Fecal Coliform	Water	No
23	QF44VO	WA-23-1023	SALZER CREEK	Temperature	Water	Yes
23	QF44VO	WA-23-1023	SALZER CREEK	Fecal Coliform	Water	No
23	EV39SR	WA-23-1027	DILLENBAUGH CREEK	Fecal Coliform	Water	No
23	EV39SR	WA-23-1027	DILLENBAUGH CREEK	Temperature	Water	Yes
23	EV39SR	WA-23-1027	DILLENBAUGH CREEK	Temperature	Water	Yes
23	EV39SR	WA-23-1027	DILLENBAUGH CREEK	Fecal Coliform	Water	No
23	EV39SR	WA-23-1027	DILLENBAUGH CREEK	Fecal Coliform	Water	No
23	KB60UI	WA-23-1028	BERWICK CREEK	Fecal Coliform	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
23	BV55DP	WA-23-1030	SKOOKUMCHUCK RIVER	Temperature	Water	Yes
23	BV55DP	WA-23-1030	SKOOKUMCHUCK RIVER	pH	Water	No
23	DS29ZH	WA-23-1100	CHEHALIS RIVER	Temperature	Water	No
23	DS29ZH	WA-23-1100	CHEHALIS RIVER	Fecal Coliform	Water	No
24	YN05JR	WA-24-0020	WILLAPA BAY	Fecal Coliform	Water	No
24	WU17DR	WA-24-1015	?	Temperature	Water	No
24	WU17DR	WA-24-1015	?	Temperature	Water	No
24	YF44AK	WA-24-1030	GRAYLAND DITCH	Dissolved Oxygen	Water	No
24	YF44AK	WA-24-1030	GRAYLAND DITCH	Fecal Coliform	Water	No
24	YN05JR	WA-24-2020	WILLAPA RIVER	Dissolved Oxygen	Water	No
24	YN05JR	WA-24-2020	WILLAPA RIVER	Fecal Coliform	Water	No
24	YN05JR	WA-24-2030	WILLAPA RIVER	Fecal Coliform	Water	No
24	MO06ZS	WA-24-2037	FORKS CREEK	Temperature	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Dissolved Oxygen	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Turbidity	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Lead	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Dissolved Oxygen	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Fecal Coliform	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Fecal Coliform	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Dissolved Oxygen	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Turbidity	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Dissolved Oxygen	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Turbidity	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Turbidity	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Dissolved Oxygen	Water	No
25	FQ06HT	WA-25-5010	LONGVIEW DITCHES	Fecal Coliform	Water	No
25	GG32VT	WA-25-5010	LONGVIEW DITCHES	Dissolved Oxygen	Water	No
25	GG32VT	WA-25-5010	LONGVIEW DITCHES	Turbidity	Water	No
26	ON59SG	WA-26-1020	COWEEMAN RIVER	Temperature	Water	No
26	EG25YW	WA-26-1040	COWLITZ RIVER	Arsenic	Water	No
27	XD64JB	WA-27-2026	ROCK CREEK (NORTH)	Fecal Coliform	Water	No
28	IQ64OU	WA-28-1010	LAKE RIVER	Temperature	Water	No
28	IQ64OU	WA-28-1010	LAKE RIVER	Fecal Coliform	Water	No
28	FP99QE	WA-28-1020	SALMON CREEK	Temperature	Water	No
28	RU61ZG	WA-28-1023	COUGAR CANYON CREEK	Dissolved Oxygen	Water	No
28	RU61ZG	WA-28-1023	COUGAR CANYON CREEK	Dissolved Oxygen	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Dissolved Oxygen	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Temperature	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Fecal Coliform	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Temperature	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Fecal Coliform	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Temperature	Water	No
28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Fecal Coliform	Water	No
28	YQ90IX	WA-28-2020	LACAMAS CREEK	Temperature	Water	No
28	YQ90IX	WA-28-2020	LACAMAS CREEK	Dissolved Oxygen	Water	No
28	YQ90IX	WA-28-2020	LACAMAS CREEK	pH	Water	No
28	YQ90IX	WA-28-2020	LACAMAS CREEK	Temperature	Water	No
28	YQ90IX	WA-28-2020	LACAMAS CREEK	Dissolved Oxygen	Water	No
28	YQ90IX	WA-28-2020	LACAMAS CREEK	pH	Water	No



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WRIA	WTRCNS-NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
28	QO04UK	WA-28-2024	FIFTH PLAIN CREEK	pH	Water	No
28	QO04UK	WA-28-2024	FIFTH PLAIN CREEK	Dissolved Oxygen	Water	No
28	QO04UK	WA-28-2024	FIFTH PLAIN CREEK	Dissolved Oxygen	Water	No
28	QO04UK	WA-28-2024	FIFTH PLAIN CREEK	Fecal Coliform	Water	No
28	QO04UK	WA-28-2024	FIFTH PLAIN CREEK	pH	Water	No
29	OY08TT	WA-29-3010	WHITE SALMON RIVER	Fecal Coliform	Water	No
29	OY08TT	WA-29-3015	RATTLESNAKE CREEK	Temperature	Water	No
29	OY08TT	WA-29-3015	RATTLESNAKE CREEK	Fecal Coliform	Water	No
29	EQ92UC	WA-29-3016	INDIAN CREEK	Temperature	Water	No
29	EQ92UC	WA-29-3016	INDIAN CREEK	Temperature	Water	No
30	XN32HN	WA-30-1018	SWALE CREEK	Instream Flow	Habitat	No
30	AY21LB	WA-30-1020	LITTLE KLICKITAT RIVER	Instream Flow	Habitat	No
30	AY21LB	WA-30-1020	LITTLE KLICKITAT RIVER	Temperature	Water	No
30	FF43IZ	WA-30-1022	MILL CREEK	Instream Flow	Habitat	No
30	XU61DO	WA-30-1025	BLOODGOOD CREEK	Instream Flow	Habitat	No
30	PU81CT	WA-30-1028	LITTLE KLICKITAT RIVER, EAST PRONG	Temperature	Water	No
30	PW77VQ	WA-30-1028	LITTLE KLICKITAT RIVER, EAST PRONG	Temperature	Water	No
30	YU86SG	WA-30-1029	BUTLER CREEK	Temperature	Water	No
32	QE90PI	WA-32-1010	WALLA WALLA RIVER	Hexachlorobenzene	Tissue	No
32	QE90PI	WA-32-1010	WALLA WALLA RIVER	PCB-1260	Tissue	No
32	LV94PX	WA-32-1020	TOUCHET RIVER	Temperature	Water	No
32	LV94PX	WA-32-1020	TOUCHET RIVER	Fecal Coliform	Water	No
32	LV94PX	WA-32-1020	TOUCHET RIVER	Temperature	Water	No
33	YB86JO	WA-33-1010	SNAKE RIVER	Total Dissolved Gas	Water	No
33	YB86JO	WA-33-1010	SNAKE RIVER	Total Dissolved Gas	Water	No
33	YB86JO	WA-33-1010	SNAKE RIVER	Total Dissolved Gas	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	Dissolved Oxygen	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	pH	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	Temperature	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	Dissolved Oxygen	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	pH	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	Temperature	Water	No
34	ZX82FM	WA-34-1020	PALOUSE RIVER, S.F.	Fecal Coliform	Water	No
34	YU73RJ	WA-34-1024	MISSOURI FLAT CREEK	Dissolved Oxygen	Water	No
34	YU73RJ	WA-34-1024	MISSOURI FLAT CREEK	Fecal Coliform	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Dissolved Oxygen	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Ammonia-N	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Dissolved Oxygen	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Temperature	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Dissolved Oxygen	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Ammonia-N	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Ammonia-N	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Dissolved Oxygen	Water	No
34	YO22BZ	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
34	ZX82FM	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	ZX82FM	WA-34-1025	PARADISE CREEK	pH	Water	No
34	ZX82FM	WA-34-1025	PARADISE CREEK	Dissolved Oxygen	Water	No
34	ZX82FM	WA-34-1025	PARADISE CREEK	Fecal Coliform	Water	No
34	NX00WG	WA-34-1030	PALOUSE RIVER	Temperature	Water	No
34	NX00WG	WA-34-1030	PALOUSE RIVER	Dissolved Oxygen	Water	No
34	NX00WG	WA-34-1030	PALOUSE RIVER	pH	Water	No
34	NX00WG	WA-34-1030	PALOUSE RIVER	Fecal Coliform	Water	No
34	ZX82FM	WA-34-1030	PALOUSE RIVER	Dissolved Oxygen	Water	No
34	ZX82FM	WA-34-1030	PALOUSE RIVER	pH	Water	No
34	ZX82FM	WA-34-1030	PALOUSE RIVER	Temperature	Water	No
35	YB86JO	WA-35-1020	SNAKE RIVER	Temperature	Water	No
35	KP78KL	WA-35-1030	ASOTIN CREEK	Fecal Coliform	Water	No
35	KL66VJ	WA-35-2010	TUCANNON RIVER	Temperature	Water	No
35	BT00LT	WA-35-2013	PATAHA CREEK	Fecal Coliform	Water	No
35	BT00LT	WA-35-2013	PATAHA CREEK	Fecal Coliform	Water	No
36	DP09CI	WA-36-1010	ESQUATZEL COULEE	Temperature	Water	No
36	LQ86BT	WA-36-1010	ESQUATZEL COULEE	pH	Water	No
36	LQ86BT	WA-36-1010	ESQUATZEL COULEE	Temperature	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	pH	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Turbidity	Water	Yes
37	EB21AR	WA-37-1010	YAKIMA RIVER	DDT	Water	Yes
37	EB21AR	WA-37-1010	YAKIMA RIVER	4,4'-DDD	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Endosulfan	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Dieldrin	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Arsenic	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	4,4'-DDE	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	DDT	Water	Yes
37	EB21AR	WA-37-1010	YAKIMA RIVER	DDT	Tissue	Yes
37	EB21AR	WA-37-1010	YAKIMA RIVER	Dieldrin	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Dieldrin	Tissue	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Mercury	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	PCB-1260	Tissue	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Temperature	Water	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Instream Flow	Habitat	No
37	EB21AR	WA-37-1010	YAKIMA RIVER	Fecal Coliform	Water	No
37	EB21AR	WA-37-1024	GRANGER DRAIN	Fecal Coliform	Water	Yes
37	EB21AR	WA-37-1024	GRANGER DRAIN	DDT	Water	No
37	EB21AR	WA-37-1024	GRANGER DRAIN	Dieldrin	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	Temperature	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	Dissolved Oxygen	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	pH	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	Ammonia-N	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	Temperature	Water	No
37	EB21AR	WA-37-1040	YAKIMA RIVER	Fecal Coliform	Water	No
37	EB21AR	WA-37-1040	YAKIMA RIVER	Mercury	Water	No
37	EB21AR	WA-37-1040	YAKIMA RIVER	Silver	Water	No
37	DY38VO	WA-37-1047	WIDE HOLLOW CREEK	4,4'-DDE	Water	No
37	DY38VO	WA-37-1047	WIDE HOLLOW CREEK	4,4'-DDD	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
37	DY38VO	WA-37-1047	WIDE HOLLOW CREEK	Fecal Coliform	Water	No
37	DY38VO	WA-37-1047	WIDE HOLLOW CREEK	Fecal Coliform	Water	No
37	EB21AR	WA-37-1047	WIDE HOLLOW CREEK	DDT	Water	No
37	EB21AR	WA-37-1047	WIDE HOLLOW CREEK	Dieldrin	Water	No
37	EB21AR	WA-37-1047	WIDE HOLLOW CREEK	Endosulfan	Water	No
37	EB21AR	WA-37-1047	WIDE HOLLOW CREEK	Temperature	Water	No
38	NK19LR	WA-38-1010	NACHES RIVER	Temperature	Water	No
38	NK19LR	WA-38-1010	NACHES RIVER	pH	Water	No
38	NK19LR	WA-38-1010	NACHES RIVER	Silver	Water	No
38	NK19LR	WA-38-1010	NACHES RIVER	pH	Water	No
38	AR69RI	WA-38-1015	COWICHE CREEK	Instream Flow	Habitat	No
38	CR82VL	WA-38-1041	GOLD CREEK	Temperature	Water	No
38	QX86IU	WA-38-1060	AMERICAN RIVER	Temperature	Water	No
38	XR40PP	WA-38-1070	BUMPING RIVER	Temperature	Water	No
38	JR85ZB	WA-38-1080	LITTLE NACHES RIVER	Temperature	Water	No
39	EB21AR	WA-39-1010	YAKIMA RIVER	DDT	Tissue	Yes
39	EB21AR	WA-39-1010	YAKIMA RIVER	4,4'-DDE	Tissue	No
39	EB21AR	WA-39-1010	YAKIMA RIVER	Dieldrin	Tissue	No
39	EB21AR	WA-39-1010	YAKIMA RIVER	Cadmium	Water	No
39	EB21AR	WA-39-1010	YAKIMA RIVER	Copper	Water	No
39	EB21AR	WA-39-1010	YAKIMA RIVER	Silver	Water	No
39	EB21AR	WA-39-1010	YAKIMA RIVER	Mercury	Water	No
39	PY59BF	WA-39-1020	WILSON CREEK	Temperature	Water	No
39	EB21AR	WA-39-1030	YAKIMA RIVER	Copper	Water	No
39	EB21AR	WA-39-1030	YAKIMA RIVER	DDT	Tissue	No
39	EB21AR	WA-39-1030	YAKIMA RIVER	4,4'-DDE	Tissue	No
39	FT68CJ	WA-39-1032	CHERRY CREEK	Temperature	Water	No
39	FT68CJ	WA-39-1032	CHERRY CREEK	DDT	Water	No
39	FT68CJ	WA-39-1032	CHERRY CREEK	4,4'-DDE	Water	No
39	FT68CJ	WA-39-1032	CHERRY CREEK	Dieldrin	Water	No
39	SZ58XV	WA-39-1034	COOKE CREEK	Dissolved Oxygen	Water	No
39	SZ58XV	WA-39-1034	COOKE CREEK	Fecal Coliform	Water	No
39	EB21AR	WA-39-1060	YAKIMA RIVER	Temperature	Water	No
39	EB21AR	WA-39-1060	YAKIMA RIVER	Dissolved Oxygen	Water	No
39	DV19FG	WA-39-1110	SELAH DITCH	Ammonia-N	Water	No
39	DV19FG	WA-39-1110	SELAH DITCH	Chlorine	Water	No
39	DV19FG	WA-39-1110	SELAH DITCH	Dissolved Oxygen	Water	No
39	EQ32WA	WA-39-1400	SWAUK CREEK	Temperature	Water	No
39	EQ32WA	WA-39-1420	SWAUK CREEK	Temperature	Water	No
39	WF36AI	WA-39-1500	TANEUM CREEK	Instream Flow	Habitat	No
39	WF36AI	WA-39-1500	TANEUM CREEK	Temperature	Water	No
39	ZH39IA	WA-39-2000	TEANAWAY RIVER	Instream Flow	Habitat	No
39	ZH39IA	WA-39-2000	TEANAWAY RIVER	Temperature	Water	Yes
41	WR93CG	WA-41-1010	CRAB CREEK	PCB-1254	Tissue	No
41	WR93CG	WA-41-1010	CRAB CREEK	PCB-1260	Tissue	No
41	WR93CG	WA-41-1010	CRAB CREEK	4,4'-DDE	Water	No
41	WR93CG	WA-41-1010	CRAB CREEK	pH	Water	No
41	WR93CG	WA-41-1010	CRAB CREEK	Temperature	Water	No
41	RC52FG	WA-41-2010	ROCKY FORD CREEK	pH	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
41	RC52FG	WA-41-2010	ROCKY FORD CREEK	Dissolved Oxygen	Water	No
41	RC52FG	WA-41-2010	ROCKY FORD CREEK	Temperature	Water	No
41	RC52FG	WA-41-2010	ROCKY FORD CREEK	Dissolved Oxygen	Water	No
41	RC52FG	WA-41-2010	ROCKY FORD CREEK	Temperature	Water	No
41	WZ45YS	WA-41-3500	LIND COULEE	Temperature	Water	No
41	WZ45YS	WA-41-3500	LIND COULEE	pH	Water	No
41	WZ45YS	WA-41-3500	LIND COULEE	Dissolved Oxygen	Water	No
41	WZ45YS	WA-41-3500	LIND COULEE	Temperature	Water	No
41	DI77OE	WA-41-5000	SAND HALLOW CREEK	Temperature	Water	No
41	DI77OE	WA-41-5000	SAND HALLOW CREEK	pH	Water	No
45	HM20EV	WA-45-1010	WENATCHEE RIVER	Temperature	Water	No
45	HM20EV	WA-45-1010	WENATCHEE RIVER	pH	Water	No
45	HM20EV	WA-45-1010	WENATCHEE RIVER	Instream Flow	Habitat	No
45	OM13EX	WA-45-1013	PESHASTIN CREEK	Instream Flow	Habitat	No
45	OM13EX	WA-45-1013	PESHASTIN CREEK	Temperature	Water	No
45	OM13EX	WA-45-1013	PESHASTIN CREEK	Temperature	Water	No
45	HM20EV	WA-45-1020	WENATCHEE RIVER	Dissolved Oxygen	Water	No
45	HM20EV	WA-45-1020	WENATCHEE RIVER	Temperature	Water	No
45	FZ91ME	WA-45-3000	NASON CREEK	Temperature	Water	No
45	UO87HL	WA-45-3000	NASON CREEK	Temperature	Water	No
46	RX71CE	WA-46-1010	ENTIAT RIVER	Instream Flow	Habitat	No
47	CH30BE	WA-47-1012	FIRST CREEK	Dissolved Oxygen	Water	No
48	EO28MQ	WA-48-1010	METHOW RIVER	Instream Flow	Habitat	No
48	EY94AH	WA-48-1021	BEAVER CREEK	Instream Flow	Habitat	No
48	GC59OC	WA-48-1030	TWISP RIVER	Temperature	Water	No
48	EO28MQ	WA-48-1050	METHOW RIVER	Instream Flow	Habitat	No
48	EO28MQ	WA-48-1050	METHOW RIVER	Instream Flow	Habitat	No
48	BB48IN	WA-48-1059	WOLF CREEK	Instream Flow	Habitat	No
48	YI72PH	WA-48-1061	EARLY WINTERS CREEK	Instream Flow	Habitat	No
49	DT59MQ	WA-49-1010	OKANOGAN RIVER	Temperature	Water	No
49	YN58LL	WA-49-1010	OKANOGAN RIVER	Fecal Coliform	Water	No
49	OX43MI	WA-49-1020	OKANOGAN RIVER	Temperature	Water	No
49	OX43MI	WA-49-1020	OKANOGAN RIVER	Dissolved Oxygen	Water	No
49	OX43MI	WA-49-1020	OKANOGAN RIVER	Instream Flow	Habitat	No
49	KR66GR	WA-49-1022	?	DDT	Water	No
54	QZ45UE	WA-54-1010	SPOKANE RIVER	Temperature	Water	No
54	QZ45UE	WA-54-1010	SPOKANE RIVER	pH	Water	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	Total Phosphorus	Water	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	PCB-1242	Tissue	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	PCB-1248	Tissue	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	PCB-1254	Tissue	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	PCB-1260	Tissue	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	PCB-1254	Tissue	No
54	QZ45UE	WA-54-1020	SPOKANE RIVER	PCB-1260	Tissue	No
55	GL94EJ	WA-55-1012	DRAGOON CREEK	Dissolved Oxygen	Water	No
56	TD36NP	WA-56-1010	HANGMAN CREEK	Dissolved Oxygen	Water	No
56	TD36NP	WA-56-1010	HANGMAN CREEK	Fecal Coliform	Water	No
56	TD36NP	WA-56-1010	HANGMAN CREEK	Dissolved Oxygen	Water	No
56	TD36NP	WA-56-1010	HANGMAN CREEK	Fecal Coliform	Water	No



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WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Zinc	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Cadmium	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Zinc	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Dissolved Oxygen	Water	No
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Arsenic	Water	No
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Zinc	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Zinc	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Lead	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Cadmium	Water	Yes
57	QZ45UE	WA-57-1010	SPOKANE RIVER	Lead	Water	Yes
58	ZX69DW	WA-58-2000	SHERMAN CREEK	Temperature	Water	No
59	DH01PX	WA-59-1010	COLVILLE RIVER	Dissolved Oxygen	Water	No
59	DH01PX	WA-59-1010	COLVILLE RIVER	Dissolved Oxygen	Water	No
59	DH01PX	WA-59-1010	COLVILLE RIVER	pH	Water	No
59	DH01PX	WA-59-1010	COLVILLE RIVER	Dissolved Oxygen	Water	No
59	DH01PX	WA-59-1010	COLVILLE RIVER	Fecal Coliform	Water	No
59	DH01PX	WA-59-1010	COLVILLE RIVER	Fecal Coliform	Water	No
59	NO98KK	WA-59-2000	?	pH	Water	No
59	NO98KK	WA-59-2000	?	Fecal Coliform	Water	No
59	KR71AJ	WA-59-2810	?	Fecal Coliform	Water	No
59	YA89GE	WA-59-3000	LITTLE PEND OREILLE RIVER	Fecal Coliform	Water	No
59	UR95XB	WA-59-5000	BLUE CREEK	Dissolved Oxygen	Water	No
59	UR95XB	WA-59-5000	BLUE CREEK	Fecal Coliform	Water	No
59	UR95XB	WA-59-5000	BLUE CREEK	Fecal Coliform	Water	No
59	UR95XB	WA-59-5000	BLUE CREEK	Fecal Coliform	Water	No
60	VO98QQ	WA-60-1015	MARTIN CREEK	Fecal Coliform	Water	No
62	DS54SI	WA-62-1010	PEND OREILLE RIVER	pH	Water	No
61	NN57SG	WA-CR-1060	FRANKLIN D. ROOSEVELT LAKE	Arsenic	Water	No
61	NN57SG	WA-CR-1060	FRANKLIN D. ROOSEVELT LAKE	Temperature	Water	No
53	NN57SG	WA-CR-1060	FRANKLIN D. ROOSEVELT LAKE	Sediment Bioassay	Sediment	No
9	BS29QB	WA-09-1005	FAUNTLEROY CREEK	Fecal Coliform	Water	No
1	DR81WH	WA-01-1014	DEER CREEK	pH	Water	No
1	DR81WH	WA-01-1014	DEER CREEK	Fecal Coliform	Water	No
7	GU12TT	WA-07-1104	RAGING RIVER	pH	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	DDT	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	4,4'-DDE	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	4,4'-DDD	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	Dieldrin	Water	No
37	KO70CH	WA-37-1024	GRANGER DRAIN	Endosulfan	Water	No
15	OQ62QE	WA-15-2030	DOGFISH CREEK	Turbidity	Water	No
8	WA69TP	WA-08-1010	JUANITA CREEK	Fecal Coliform	Water	No

### Estuaries

WRIA	WBDY_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	4-Methylphenol	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Benzo(ghi)perylene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Acenaphthene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Phenol	Sediment	No



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WRIA	WBDY NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Fluorene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Benzo(a)pyrene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Chrysene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Phenanthrene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Fluoranthene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Naphthalene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Mercury	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	2-Methylnaphthalene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	4-Methylphenol	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	2-Methylphenol	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	2,4-Dimethylphenol	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Benzyl alcohol	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Bis(2-ethylhexyl) phthalate	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Phenol	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Benzo(a)pyrene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Total PCBs	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Zinc	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Benzo(b,k)fluoranthenes	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Di-n-octyl phthalate	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Acenaphthene	Sediment	No
7	390KRD	WA-07-0010	PORT GARDNER AND INNER EVERETT HARBOR	Pentachlorophenol	Sediment	No
8	213HVK	WA-08-9350	LAKE WASHINGTON	Fecal Coliform	Water	No
8	213HVK	WA-08-9350	LAKE WASHINGTON	Fecal Coliform	Water	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Mercury	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Butylbenzyl phthalate	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Dibenz(a,h)anthracene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Total PCBs	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Indeno(1,2,3-cd)pyrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(ghi)perylene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	2,4-Dimethylphenol	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Mercury	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Chromium	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Fluoranthene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Dibenz(a,h)anthracene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Chrysene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Fluorene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Copper	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Indeno(1,2,3-cd)pyrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(b,k)fluoranthenes	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(ghi)perylene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Zinc	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzyl alcohol	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Zinc	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Arsenic	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Mercury	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	1,4-Dichlorobenzene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Copper	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Dibenz(a,h)anthracene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Total PCBs	Sediment	No



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WRIA	WBDY NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
9	390KRD	WA-09-0010	ELLIOTT BAY	Indeno(1,2,3-cd)pyrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Lead	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(ghi)perylene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Cadmium	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Dibenzofuran	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Acenaphthene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Fluorene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Phenanthrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Pentachlorophenol	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Fluoranthene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	2,4-Dimethylphenol	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzoic acid	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Mercury	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Acenaphthene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Dibenzofuran	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Fluorene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Phenanthrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(a)pyrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Indeno(1,2,3-cd)pyrene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(ghi)perylene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Chrysene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Dibenz(a,h)anthracene	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Copper	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Benzo(b,k)fluoranthenes	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Total PCBs	Sediment	No
9	390KRD	WA-09-0010	ELLIOTT BAY	Zinc	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Arsenic	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Mercury	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Bis(2-ethylhexyl) phthalate	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Zinc	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Copper	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Cadmium	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Butylbenzyl phthalate	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Lead	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Diethyl phthalate	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Benzyl alcohol	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Silver	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Acenaphthene	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Dibenzofuran	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	2,4-Dimethylphenol	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	N-nitrosodiphenylamine	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Fluorene	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Total PCBs	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Phenol	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Phenanthrene	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Di-n-butyl phthalate	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Fluoranthene	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Benzoic acid	Sediment	No
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	2-Methylphenol	Sediment	No



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WRIA	WBDY_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
10	390KRD	WA-10-0010	COMMENCEMENT BAY (OUTER)	Naphthalene	Sediment	No
14	390KRD	WA-14-0110	OAKLAND BAY	Fecal Coliform	Water	No
15	390KRD	WA-15-0030	PORT ORCHARD, AGATE PASSAGE, AND RICH PASSAGE	Arsenic	Tissue	No
15	390KRD	WA-15-0040	SINCLAIR INLET	Arsenic	Tissue	No
15	390KRD	WA-15-0040	SINCLAIR INLET	Fecal Coliform	Water	No
15	390KRD	WA-15-0040	SINCLAIR INLET	Arsenic	Tissue	No
15	390KRD	WA-15-0050	DYES INLET AND PORT WASHINGTON NARROWS	Fecal Coliform	Water	No
15	390KRD	WA-15-0050	DYES INLET AND PORT WASHINGTON NARROWS	Arsenic	Tissue	No
15	390KRD	WA-15-0050	DYES INLET AND PORT WASHINGTON NARROWS	Arsenic	Tissue	No
15	390KRD	WA-15-0050	DYES INLET AND PORT WASHINGTON NARROWS	Arsenic	Tissue	No
15	390KRD	WA-15-0050	DYES INLET AND PORT WASHINGTON NARROWS	Benzo(b)fluoranthene	Tissue	No
15	390KRD	WA-15-0050	DYES INLET AND PORT WASHINGTON NARROWS	Benzo(b)fluoranthene	Tissue	No
15	390KRD	WA-15-0070	HENDERSON BAY	Dissolved Oxygen	Water	No
24	390KRD	WA-24-0020	WILLAPA BAY	Fecal Coliform	Water	No
24	NN57SG	WA-CR-1010	COLUMBIA RIVER	Fecal Coliform	Water	No
25	NN57SG	WA-CR-1010	COLUMBIA RIVER	Arsenic	Water	No
24	NN57SG	WA-CR-1010	COLUMBIA RIVER	PCB-1254	Tissue	No
25	NN57SG	WA-CR-1010	COLUMBIA RIVER	Temperature	Water	No
28	NN57SG	WA-CR-1010	COLUMBIA RIVER	Temperature	Water	No
28	NN57SG	WA-CR-1010	COLUMBIA RIVER	Total Dissolved Gas	Water	Yes
25	NN57SG	WA-CR-1010	COLUMBIA RIVER	Fecal Coliform	Water	No
30	NN57SG	WA-CR-1020	COLUMBIA RIVER	Temperature	Water	No
30	NN57SG	WA-CR-1020	COLUMBIA RIVER	Total Dissolved Gas	Water	Yes
30	NN57SG	WA-CR-1020	COLUMBIA RIVER	Total Dissolved Gas	Water	Yes
30	NN57SG	WA-CR-1020	COLUMBIA RIVER	Total Dissolved Gas	Water	Yes
31	NN57SG	WA-CR-1028	COLUMBIA RIVER	Sediment Bioassay	Sediment	No
58	NN57SG	WA-CR-1060	FRANKLIN D. ROOSEVELT LAKE	Mercury	Water	No
14	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
14	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	pH	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	pH	Water	No
15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	pH	Water	No
16	390KRD	WA-PS-0250	HOOD CANAL (SOUTH)	Fecal Coliform	Water	No
16	390KRD	WA-PS-0250	HOOD CANAL (SOUTH)	Fecal Coliform	Water	No
14	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Dissolved Oxygen	Water	No
14	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	pH	Water	No
15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Fecal Coliform	Water	No
14	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Fecal Coliform	Water	No
15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	pH	Water	No
15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	pH	Water	No
15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Dissolved Oxygen	Water	No
2	390KRD	WA-02-0030	SAN JUAN CHANNEL	Fecal Coliform	Water	No
9	390KRD	WA-PS-0270	PUGET SOUND (S-CENTRAL) AND EAST PASSAGE	Ammonia-N	Water	No



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WRIA	WBDY NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
9	390KRD	WA-PS-0270	PUGET SOUND (S-CENTRAL) AND EAST PASSAGE	Fecal Coliform	Water	No



## IMPAIRED WATER BODIES WITHIN 600 FEET OF AN INVENTORIED<sup>1</sup> WSDOT STORMWATER OUTFALL

NOTE: Discharge to receiving waters determinations requires flowpath analysis and/or field verification.<sup>2</sup> In several instances, the Ecology database used for this assessment contained gaps for the *WBID* and/or *water body name* fields.

### Lakes

Outfall Serial No.	WRIA	WTRBDY_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
5-168.7-L-600, 5-168.9-L-400, 5-169-M-0	8	043HCN	WA-08-9340	UNION, LAKE	Sediment Bioassay	Sediment	No
5-168.7-L-600, 5-168.9-L-400, 5-169-M-0	8	043HCN	WA-08-9340	UNION, LAKE	Dieldrin	Tissue	No
516-10.22-R-10, 516-10.22-R-250	9	148NFC	WA-09-9160	MERIDIAN, LAKE	Total Phosphorus	Water	No
516-10.22-R-10, 516-10.22-R-250	9	148NFC	WA-09-9160	MERIDIAN, LAKE	Fecal Coliform	Water	No
101-366.99-L-37, 101-367.07-L-15, 101-367.24-L-4, 5-104.49-R-120, 5-104.57-R-0	13	601ADB	WA-13-9020	CAPITOL LAKE	Total Phosphorus	Water	No

### Rivers & Streams

Outfall Serial No.	WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
522-5.58-L-10	8	AS70QO	WA-08-1040	LYON CREEK	Fecal Coliform	Water	No
900-16.25-L-25, 900-16.68-L-15, 900-16.88-L-10, 900-17.03-L-15, 900-17.34-R-10	8	BG47ND	WA-08-1130	MAY CREEK	Temperature	Water	No
302-11.2-R-25, 302-11.25-L-7	15	BH24TJ	WA-15-1300	MINTER CREEK	Fecal Coliform	Water	No
405-7.18-L-60, 405-7.19-M-0, 405-7.41-L-200	8	BH96KG	WA-08-1130	MAY CREEK	Copper	Water	No
405-7.18-L-60, 405-7.19-M-0, 405-7.41-L-200	8	BH96KG	WA-08-1130	MAY CREEK	Lead	Water	No
405-7.18-L-60, 405-7.19-M-0, 405-7.41-L-200	8	BH96KG	WA-08-1130	MAY CREEK	Zinc	Water	No
405-7.18-L-60, 405-7.19-M-0, 405-7.41-L-200	8	BH96KG	WA-08-1130	MAY CREEK	Copper	Water	No
405-7.18-L-60, 405-7.19-M-0, 405-7.41-L-200	8	BH96KG	WA-08-1130	MAY CREEK	Lead	Water	No
167-18.91-L-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Dissolved Oxygen	Water	No
167-18.91-L-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
167-18.91-L-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Temperature	Water	No
167-18.91-L-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Dissolved Oxygen	Water	No
167-18.91-L-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
18-1.9-R-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
18-1.9-R-30	9	BI99NR	WA-09-1022	HILL (MILL) CREEK	Fecal Coliform	Water	No
516-3.91-L-50	9	BP27QP	None23	?	Fecal Coliform	Water	No
516-3.91-L-50	9	BP27QP	None23	?	Dissolved Oxygen	Water	No
516-3.91-L-50	9	BP27QP	None23	?	Temperature	Water	No
99-5.81-R-30, 5-139.5-L-100	10	BT61HR	WA-10-1013	HYLEBOS CREEK, W.F.	Fecal Coliform	Water	No
16-29.12-R-18, 3-34.53-L-10, 405-1.62-L-30, 405-1.64-R-40	9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Temperature	Water	No
16-29.12-R-18, 3-34.53-L-10, 405-1.62-L-30, 405-1.64-R-40	9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Chromium	Water	No

<sup>1</sup> The outfall inventory contains 3,743 of an estimated 20,000 outfalls that are estimated to exist.

<sup>2</sup> The data entered in the *receiving water* data field of the *Outfall* geocoded coverage does not support the identification of receiving 303(d)-listed water bodies from each outfall. Most of these records do not mention a specific water body in this field, but rather describe the type of land cover that the outfall drains to. Those records that name a specific water body, do not identify the particular segment that is 303(d)-listed. Efforts to determine which 303(d)-listed water bodies receive flow from particular outfalls would require topographic flowpath analysis and/or field verification.



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Outfall Serial No.	WRIA	WTRCRS NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
16-29.12-R-18, 3-34.53-L-10, 405-1.62-L-30, 405-1.64-R-40	9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Cadmium	Water	No
16-29.12-R-18, 3-34.53-L-10, 405-1.62-L-30, 405-1.64-R-40	9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Fecal Coliform	Water	No
16-29.12-R-18, 3-34.53-L-10, 405-1.62-L-30, 405-1.64-R-40	9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Mercury	Water	No
16-29.12-R-18, 3-34.53-L-10, 405-1.62-L-30, 405-1.64-R-40	9	BY98ES	WA-09-1015	SPRINGBROOK (MILL) CREEK	Zinc	Water	No
520-11.8-L-10	8	CA16HI	WA-08-1100	SAMMAMISH RIVER	Fecal Coliform	Water	No
520-11.8-L-10	8	CA16HI	WA-08-1100	SAMMAMISH RIVER	Fecal Coliform	Water	No
520-11.8-L-10	8	CA16HI	WA-08-1100	SAMMAMISH RIVER	pH	Water	No
520-11.8-L-10	8	CA16HI	WA-08-1100	SAMMAMISH RIVER	Temperature	Water	No
522-10.87-L-40, 522-11.09-R-400	8	CA16HI	WA-08-1070	SAMMAMISH RIVER	Fecal Coliform	Water	No
522-10.87-L-40, 522-11.09-R-400	8	CA16HI	WA-08-1070	SAMMAMISH RIVER	Temperature	Water	No
522-10.87-L-40, 522-11.09-R-400	8	CA16HI	WA-08-1070	SAMMAMISH RIVER	Dissolved Oxygen	Water	No
522-5.58-L-10, 522-5.58-R-25	8	CF07LH	WA-08-1030	MCALDER CREEK	Fecal Coliform	Water	No
405-10.08-L-5, 405-10.14-R-225, 405-10.18-L-175	8	CH04NG	WA-08-1120	COAL CREEK	Fecal Coliform	Water	No
509-10.39-L-7	10	CN61UF	WA-09-2030	LAKOTA CREEK	Fecal Coliform	Water	No
90-17.14-M-0, 90-17.22-L-300	8	CZ80NC	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
205-30.65-L-33, 205-30.66-L-33, 205-30.7-R-60, 205-30.72-R-40	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Dissolved Oxygen	Water	No
205-30.65-L-33, 205-30.66-L-33, 205-30.7-R-60, 205-30.72-R-40	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Temperature	Water	No
205-30.65-L-33, 205-30.66-L-33, 205-30.7-R-60, 205-30.72-R-40	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Fecal Coliform	Water	No
5-2.82-R-100	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Temperature	Water	No
5-2.82-R-100	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Fecal Coliform	Water	No
5-2.82-R-100	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Temperature	Water	No
5-2.82-R-100	28	GB90VP	WA-28-1040	BURNT BRIDGE CREEK	Fecal Coliform	Water	No
546-6.6-R-20, 546-6.61-L-15	1	GF74PM	WA-01-2050	SQUAW CREEK	Fecal Coliform	Water	No
546-5.75-R-15	1	GF74PM	WA-01-2050	SQUAW CREEK	pH	Water	No
546-5.75-R-15	1	GF74PM	WA-01-2050	SQUAW CREEK	Fecal Coliform	Water	No
522-7.99-R-15	8	GJ57UL	WA-08-1060	SWAMP CREEK	Dissolved Oxygen	Water	No
516-9.05-R-20, 516-9.06-R-20	9	GS67LK	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
516-9.05-R-20, 516-9.06-R-20	9	GS67LK	WA-09-1026	SOOS CREEK	Dissolved Oxygen	Water	No
509-9.63-R-15	10	GV05FS	WA-09-2040	JOE'S CREEK	Fecal Coliform	Water	No
18-8.18-R-80	9	HH34YJ	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
509-13.48-R-22	9	IF38BT	WA-09-2020	REDONDO CREEK	Fecal Coliform	Water	No
99-23.06-R-30, 99-23.16-R-15, 99-23.2-R-25, 99-23.23-R-25, 99-23.27-R-20, 99-23.48-R-60	9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	pH	Water	No
5-157.52-L-200, 599-.75-R-20, 599-.89-R-65	9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	Fecal Coliform	Water	No
99-23.96-R-20, 99-24.05-R-15, 99-24.11-R-15	9	IG58VD	WA-09-1010	DUWAMISH WATERWAY AND RIVER	pH	Water	No
169-18.6-R-25, 169-18.99-R-60, 169-19.03-R-60	8	JG09GH	WA-08-1145	CEDAR RIVER	Fecal Coliform	Water	No
3-3.3-L-10	14	JZ99VQ	WA-14-1650	SHELTON CREEK	Fecal Coliform	Water	No
546-.05-R-55	1	KG72JQ	WA-01-1111	DUFFNER DITCH	Fecal Coliform	Water	No
546-.05-R-55	1	KG72JQ	WA-01-1111	DUFFNER DITCH	Dissolved Oxygen	Water	No
5-105.8-L-180	13	KX91JE	WA-13-1300	INDIAN CREEK	Fecal Coliform	Water	No
5-114.09-R-165, 5-114.1-L-120, 5-114.11-M-0	11	LD26OX	WA-11-2000	?	Dissolved Oxygen	Water	No
5-114.09-R-165, 5-114.1-L-120, 5-114.11-M-0	11	LD26OX	WA-11-2000	?	Fecal Coliform	Water	No



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Outfall Serial No.	WRIA	WTRCRS_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
5-114.09-R-165, 5-114.1-L-120, 5-114.11-M-0	11	LD26OX	WA-11-2000	?	Fecal Coliform	Water	No
5-114.09-R-165, 5-114.1-L-120, 5-114.11-M-0	11	LD26OX	WA-11-2000	?	Dissolved Oxygen	Water	No
16-25.24-L-69, 16-25.25-L-39, 16-25.26-R-46, 16-25.3-R-120, 16-25.36-L-58,	15	LK41ZU	WA-15-4200	BLACKJACK CREEK	Fecal Coliform	Water	No
410-22.25-L-48	10	LY34GL	WA-10-1030	WHITE RIVER	Fecal Coliform	Water	No
90-15.43-L-100, 90-15.45-L-20	8	MB51QQ	WA-08-1115	TIBBETS CREEK	Fecal Coliform	Water	No
546-.05-R-55	1	MI36KN	WA-01-1116	DOUBLE DITCH DRAIN	Fecal Coliform	Water	No
546-.05-R-55	1	MI36KN	WA-01-1110	BERTRAND CREEK	Ammonia-N	Water	No
202-9.25-R-20, 202-9.48-R-20	8	MI67EG	WA-08-1095	BEAR-EVANS CREEK	Fecal Coliform	Water	No
547-10.29-R-25	1	MS54MP	WA-01-2030	SUMAS CREEK	Fecal Coliform	Water	No
516-12.28-L-25, 516-12.4-R-15	9	NP20EM	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
16-20.06-R-30, 16-20.36-R-27	15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
16-20.67-L-11, 16-20.06-R-30, 16-20.36-R-27, 16-20.17-L-10, 16-20.24-L-45, 16-20.36-L-11, 16-20.5-R-37	15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
16-22.6-L-225, 16-22.61-L-237, 16-22.64-R-300, 16-22.8-L-77	15	NQ77DR	WA-15-1400	BURLEY CREEK	Fecal Coliform	Water	No
5-207.93-R-90, 5-207.99-L-20, 5-208-L-95, 5-208.23-L-45, 5-208.32-L-50	5	OT80TY	WA-05-1015	PORTAGE CREEK	Turbidity	Water	No
5-207.93-R-90, 5-207.99-L-20, 5-208-L-95, 5-208.23-L-45, 5-208.32-L-50	5	OT80TY	WA-05-1015	PORTAGE CREEK	Dissolved Oxygen	Water	No
5-207.93-R-90, 5-207.99-L-20, 5-208-L-95, 5-208.23-L-45, 5-208.32-L-50	5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5-207.93-R-90, 5-207.99-L-20, 5-208-L-95, 5-208.23-L-45, 5-208.32-L-50	5	OT80TY	WA-05-1015	PORTAGE CREEK	Fecal Coliform	Water	No
5-207.93-R-90, 5-207.99-L-20, 5-208-L-95, 5-208.23-L-45, 5-208.32-L-50	5	OT80TY	WA-05-1015	PORTAGE CREEK	Dissolved Oxygen	Water	No
5-259.05-R-30, 5-259.12-R-110, 5-259.14-R-110	1	PC85CB	None4	?	Fecal Coliform	Water	No
5-198.84-L-55	7	PR16VH	WA-07-1011	EBEY SLOUGH	pH	Water	No
5-198.84-L-55	7	PR16VH	WA-07-1011	EBEY SLOUGH	Fecal Coliform	Water	No
5-198.84-L-55	7	PR16VH	WA-07-1011	EBEY SLOUGH	Dissolved Oxygen	Water	No
5-198.84-L-55	7	PR16VH	WA-07-1011	EBEY SLOUGH	Water Column Bioassay	Water	No
5-125.63-M-0, 5-125.64-L-10, 5-125.65-M-0	12	PS92IZ	WA-12-1115	CLOVER CREEK	Dissolved Oxygen	Water	No
5-125.63-M-0, 5-125.64-L-10, 5-125.65-M-0	12	PS92IZ	WA-12-1115	CLOVER CREEK	Fecal Coliform	Water	No
5-125.63-M-0, 5-125.64-L-10, 5-125.65-M-0	12	PS92IZ	WA-12-1115	CLOVER CREEK	Temperature	Water	No
167-5.27-R-280	10	PX29AG	WA-10-1020	PUYALLUP RIVER	Fecal Coliform	Water	No
167-5.27-R-280	10	PX29AG	WA-10-1020	PUYALLUP RIVER	Arsenic	Water	No
302-11.2-R-25, 302-11.25-L-7, 302-11.35-L-10	15	QB57UD	WA-15-1350	LITTLE MINTER CREEK	Fecal Coliform	Water	No
290-8.6-L-0	57	QZ45UE	WA-57-1010	SPOKANE RIVER	Zinc	Water	Yes
5-138.43-L-13, 5-138.44-L-13, 5-138.63-L-75, 5-138.64-L-65, 5-138.8-M-0, 5-138.81-R-15, 5-138.93-R-65, 5-139.1-L-10, 5-139.14-R-10, 5-139.15-L-0, 5-139.15-M-10, 5-139.19-R-10	10	RL09XF	WA-10-1011	HYLEBOS CREEK	Fecal Coliform	Water	No
546-2.28-R-5, 546-2.29-L-10	1	RN53NC	WA-01-1115	FISHTRAP CREEK	Instream Flow	Habitat	No
546-2.28-R-5, 546-2.29-L-10	1	RN53NC	WA-01-1115	FISHTRAP CREEK	Fecal Coliform	Water	Yes
5-4.55-R-40, 5-4.56-R-40, 5-4.57-L-55	28	RU61ZG	WA-28-1023	COUGAR CANYON CREEK	Dissolved Oxygen	Water	No
5-4.55-R-40, 5-4.56-R-40, 5-4.57-L-55	28	RU61ZG	WA-28-1023	COUGAR CANYON CREEK	Dissolved Oxygen	Water	No
99-24.5-R-50, 99-24.53-R-10, 99-24.54-R-10, 99-24.57-L-20, 99-24.58-L-40, 99-24.66-R-10, 99-24.72-L-20, 99-24.74-L-	9	SJ46KE	WA-09-1010	DUWAMISH WATERWAY AND RIVER	Dissolved Oxygen	Water	No



March 10, 2003

Outfall Serial No.	WRIA	WTRCRS NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
15, 99-24.79-L-30, 99-24.88-L-60,							
99-24.5-R-50, 99-24.53-R-10, 99-24.54-R-10, 99-24.57-L-20, 99-24.58-L-40, 99-24.66-R-10, 99-24.72-L-20, 99-24.74-L-15, 99-24.79-L-30, 99-24.88-L-60,	9	SJ46KE	WA-09-1010	DUWAMISH WATERWAY AND RIVER	Fecal Coliform	Water	No
405-25.58-M-0	8	SM74QQ	WA-08-1065	NORTH CREEK	Dissolved Oxygen	Water	No
405-25.58-M-0	8	SM74QQ	WA-08-1065	NORTH CREEK	Fecal Coliform	Water	Yes
90-16.67-M-0, 90-17.68-R-50	8	TF31OB	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
90-16.67-M-0, 90-17.68-R-50	8	TF31OB	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
90-17.68-R-50	8	TF31OB	WA-08-1110	ISSAQUAH CREEK SYSTEM	Fecal Coliform	Water	No
5-103.48-R-50, 5-103.66-R-150	13	TM40PW	WA-13-1010	DESCHUTES RIVER	Temperature	Water	No
5-103.48-R-50, 5-103.66-R-150	13	TM40PW	WA-13-1010	DESCHUTES RIVER	pH	Water	No
5-103.48-R-50, 5-103.66-R-150	13	TM40PW	WA-13-1010	DESCHUTES RIVER	Fecal Coliform	Water	No
5-103.48-R-50, 5-103.66-R-150	13	TM40PW	WA-13-1010	DESCHUTES RIVER	Temperature	Water	No
90-36.33-R-30, 90-35.99-R-30	7	UC46QU	WA-07-1120	SNOQUALMIE RIVER, S.F.	pH	Water	No
90-39.65-L-300	7	UC46QU	WA-07-1120	SNOQUALMIE RIVER, S.F.	pH	Water	No
90-42.11-M-0	7	UC46QU	WA-07-1120	SNOQUALMIE RIVER, S.F.	Temperature	Water	No
16-17.67-R-84, 16-17.68-R-72	15	UM57RJ	WA-15-1015	PURDY CREEK	Fecal Coliform	Water	No
522-11.84-R-30	8	UT96KR	WA-08-1085	LITTLE BEAR CREEK	Fecal Coliform	Water	No
524-12.23-L-10, 524-12.23-R-10, 524-12.24-L-11	8	UT96KR	WA-08-1085	LITTLE BEAR CREEK	Fecal Coliform	Water	No
5-210.62-M-0, 5-210.67-R-60, 5-211.52-M-0	5	VJ74AO	WA-05-1018	?	Temperature	Water	No
5-210.62-M-0, 5-210.67-R-60, 5-211.52-M-0	5	VJ74AO	WA-05-1018	?	Dissolved Oxygen	Water	No
18-7.37-L-60	9	VY43OI	WA-09-1026	SOOS CREEK	Fecal Coliform	Water	No
405-20.98-L-60	8	WA69TP	WA-08-1010	JUANITA CREEK	Fecal Coliform	Water	No
5-260.44-L-60, 5-260.45-L-40, 5-260.6-L-25, 5-260.6-L-80	1	WO95OB	WA-01-1101	SILVER CREEK	Dissolved Oxygen	Water	No
5-260.44-L-60, 5-260.45-L-40, 5-260.6-L-25, 5-260.6-L-80	1	WO95OB	WA-01-1101	SILVER CREEK	Fecal Coliform	Water	No
3-34.25-L-30, 3-34.53-L-10, 16-29.12-R-18	15	WT04RS	WA-15-4000	GORST CREEK	Fecal Coliform	Water	No
169-22.2-R-30, 169-22.23-L-20, 169-22.28-R-20	8	XN07SY	WA-09-1015	SPRINGBROOK (MILL) CREEK	Fecal Coliform	Water	No
169-22.2-R-30, 169-22.23-L-20, 169-22.28-R-20	8	XN07SY	WA-09-1015	SPRINGBROOK (MILL) CREEK	Dissolved Oxygen	Water	No
167-78-R-39	10	YA22IG	WA-10-1022	SWAN CREEK	Fecal Coliform	Water	No
167-78-R-39	10	YA22IG	WA-10-1022	SWAN CREEK	Fecal Coliform	Water	No
405-88-R-300, 405-89-R-250, 405-99-L-350	9	YD05HE	WA-09-1020	GREEN RIVER	Chromium	Water	No
405-88-R-300, 405-89-R-250, 405-99-L-350	9	YD05HE	WA-09-1020	GREEN RIVER	Temperature	Water	No
405-88-R-300, 405-89-R-250, 405-99-L-350	9	YD05HE	WA-09-1020	GREEN RIVER	Fecal Coliform	Water	No
405-88-R-300, 405-89-R-250, 405-99-L-350	9	YD05HE	WA-09-1020	GREEN RIVER	Fecal Coliform	Water	No
405-88-R-300, 405-89-R-250, 405-99-L-350	9	YD05HE	WA-09-1020	GREEN RIVER	Mercury	Water	No
405-88-R-300, 405-89-R-250, 405-99-L-350	9	YD05HE	WA-09-1020	GREEN RIVER	Temperature	Water	No
104-21.7-R-10	15	YF74OD	None43	?	Temperature	Water	No
529-4.32-L-250	7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Fecal Coliform	Water	No
529-4.32-L-250	7	YS20QN	WA-07-1010	SNOHOMISH RIVER	Temperature	Water	No
5-136.63-L-0, 5-136.63-M-0, 5-136.64-L-0, 5-136.64-M-0	10	ZV38XK	WA-10-1015	WAPATO CREEK	Instream Flow	Habitat	No



March 10, 2003

# Estuaries

Outfall Serial No.	WRIA	WBDY_NR	WBID	WATERBODY NAME	PARAMETER	MEDIUM	TMDL?
302-15.02-L-18, 302-15.08-R-10, 302-15.1-R-10, 302-15.13-R-10, 302-15.16-R-10, 302-15.2-L-5, 302-15.23-L-5, 302-15.3-L-5	15	390KRD	WA-15-0070	HENDERSON BAY	Dissolved Oxygen	Water	No
302-4.1-L-5, 302-4.1-R-8, 302-4.2-R-80, 302-4.21-L-90, 302-4.23-L-9, 302-4.3-R-75, 302-4.4-L-55	14	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
302-1.29-R-14	15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	Fecal Coliform	Water	No
302-1.29-R-14	15	390KRD	WA-PS-0090	CASE INLET AND DANA PASSAGE	pH	Water	No
3-24.9-R-8	15	390KRD	WA-PS-0260	GREAT BEND/LYNCH COVE	Fecal Coliform	Water	No
405-8.36-L-175, 405-8.42-L-75, 405-8.49-L-125, 405-8.54-L-125, 405-8.64-L-200	8	213HVK	WA-08-9350	LAKE WASHINGTON	Fecal Coliform	Water	No



## **Part II. Status of WSDOT Stormwater Management Program**

This application requires you to describe the status of your Stormwater Management Program including:

- The management practices, control techniques, and system, design and engineering methods, and other provisions as appropriate used to reduce stormwater discharge impacts.
- The area of application of the management practices, control techniques, and system, design and engineering methods, and other provisions as appropriate used to reduce stormwater discharge impacts.
- Planned changes or additions to the management practices, control techniques, and system, design and engineering methods, and other provisions as appropriate.

The following 13 sections correspond to a potential WSDOT stormwater quality management program and are based on the current Phase I WSDOT municipal stormwater NPDES permit, WSDOT's stormwater management program approved under the Phase I permit, and the six minimum control measures for a Phase II stormwater management program.

### **Instructions:**

For each of the listed sections, state the objective (where applicable) and describe BMPs and other measures that comprise the existing program. For each BMP, include a brief description, including level of effort, where the BMP is applied, and any planned changes or improvements scheduled for the upcoming permit term.

In cases where another entity performs one or more BMPs or components thereof on behalf of WSDOT, specifically describe the activities each entity conducts, and include reference to legal agreement where appropriate.

### **Introduction:**

WSDOT implements a variety of programs to address various environmental issues and programs. This application summarizes existing WSDOT activities and programs addressing stormwater runoff, but is not intended to list every WSDOT environmental program or activity with a potential stormwater impact.



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## 1. Legal Authority

**Statewide Stormwater Application:** *Describe the adequacy of WSDOT's legal authority to control discharges to and from its municipal separate storm sewers.*

### 1.1 WSDOT - Legal Responsibilities and Authority

The State Legislature has not given WSDOT general police powers available to cities and counties under the state Constitution. WSDOT has only the authority necessary to carry out its enumerated purposes. As stated in the Revised Code of Washington (RCW) 47.01.260, WSDOT may “exercise all the powers and perform all the duties necessary, convenient, or incidental to the planning, locating, designing, constructing, improving, repairing, operating, and maintaining state highways, including bridges and other structures, culverts, and drainage facilities and channel changes necessary for the protection of state highways.”

WSDOT designs, maintains, and operates drainage and stormwater facilities connected with its highways in accordance with environmental regulations. Additionally, WSDOT may exercise its authority over private citizens only as it relates to promoting a highway purpose. Independent of designing, constructing, or protecting highways, full implementation of municipal NPDES stormwater programs does not fall within WSDOT authority. For example, WSDOT does not have authority to prohibit discharges that originate off of its rights-of-way, unless a utility permit application is made to connect the discharge to the highway drainage system or otherwise discharge onto state rights of way. WSDOT does not have the authority to initiate enforcement actions or impose penalties for illicit discharges to its municipal separate storm sewers.

Specific WSDOT authorities over its rights-of-way are included in the following resources:

- Title to the rights-of-way, RCW 47.04.040;
- Authority to lease unused highway land or air space, RCW 47.12.120;
- An obligation to own portions of city streets that form a part of state highways, RCW 47.24.020;
- Authority to grant utility permits and franchises on state rights-of-way, RCW 47.44.010;
- Authority to regulate access to state highways, RCW 47.50.010;
- Authority to remove encroachments or obstructions on state rights-of-way where necessary for the convenience and safety of public travel and use of a state highway, RCW 47.32.010; and,
- Authority to prevent nuisances, natural or artificial, that threaten or endanger the state highway, RCW 47.32.130.



### **1.2 WSDOT – Contract Provisions**

WSDOT controls construction work performed on rights-of-way through the use of contract provisions. Most construction work on state rights-of-way, as it relates to stormwater management, will be covered independently of this permit by either the NPDES General Stormwater Permit for Construction Activities, or individual NPDES Construction Stormwater Permits.

When WSDOT enters into contracts to perform construction activities, it may include conditions as part of the contract or in its specifications. WSDOT requires compliance with all applicable federal, state and local regulations in its Standard Specifications, which includes the requirement for obtaining required permits and licenses. WSDOT also requires its construction contractors to submit and implement erosion and sediment control plans, and spill prevention, control and countermeasures plans. (Standard Specifications for Road, Bridge and Municipal Construction, ID No. M 41-10)

### **1.3 Development Outside of Rights-of-Way**

WSDOT cannot regulate development outside of the right-of-way unless it somehow requires the use of state right-of-way, and therefore requires a utility permit or franchise; or the development requires access to the state highway in which case WSDOT regulates the nature of the access. Where WSDOT is authorized to permit an activity, such as installing a utility or connecting a new road access, it may add conditions to its permit related to stormwater flow and quality.

### **1.4 WSDOT Property Management and Drainage Control**

WSDOT is obligated to perpetuate natural drainage patterns and cannot refuse to convey surface water flows across rights of way. WSDOT does not require a utility permit unless a formal connection is proposed to WSDOT facilities. All stormwater drainage or utility connections from private and public property onto state highway right-of-way require a utility permit and/or franchise. Permits are obtained according to the processes described in the WSDOT *Utilities Manual* (ID No. M 22-87).

Utilities or jurisdictions which have pipes, culverts, or ditches which conveys source(s) other than stormwater or natural base flow shall not be granted a utility permit or franchise for conveyance using WSDOT storm sewer systems, including roadside ditches. Utilities or jurisdictions using WSDOT storm sewer systems for conveyance of off right-of-way stormwater or natural base flow shall provide water quantity and quality controls, including conveyances, which conform to specifications in Department of Ecology's stormwater management manuals or local stormwater design guides or ordinances, whichever is more stringent.

## **2. Information Management**

**Statewide Stormwater Application:** *Describe the adequacy of WSDOT's program for gathering, maintaining and using information to conduct planning, priority setting, and program evaluation activities for the SWMP, including mapping of highways and properties, stormwater treatment and flow control facilities, outfalls and stormwater data.*

### **2.1 Stormwater Outfall Facility Information Database**

The WSDOT Water Quality Program has developed an inventory, scoring, prioritization, and programming system to identify and address environmental improvement needs relating to highway stormwater conveyance and discharge systems throughout Washington. This stormwater outfall inventory (in progress, but not yet completed) and retrofit program are described in section 7.1. As part of this inventory and retrofit effort, WSDOT is developing a database to manage outfall and conveyance system field data; to identify the need for retrofit, replacement, or repair of the inventory systems; and to prioritize the project locations relative to other outfall locations within the database.



WSDOT conducted a data needs analysis and developed a design specification for improvement to the original stormwater facility inventory database. In 2001, a modified version of the database was constructed which included converting the existing single-table data structure to a set of relational data structures in a client-server environment, and development of appropriate data systems to facilitate future expansion. Data from the original database was then migrated to the revised relational structure.

WSDOT's field teams are now better able to collect all pertinent field data relating to a given outfall location and its associated conveyance structure system. Detailed field information, including engineering sketches, identification of potential illicit discharges, and Global Positioning System (GPS) coordinates for all conveyance structures and facilities are recorded within the database for future use by Maintenance, Construction, Information Technologies, and other offices and divisions within WSDOT. The GPS mapping of stormwater outfalls completed in 1993-1995 was used to identify mapped outfalls for *Part 1.5* of this application. Outfall inventory data were collected for 3,743 sites, mostly in NPDES Phase I areas, but actual GPS mapping was only completed for 2,727 sites. This data contains references to receiving water bodies, but unfortunately, the actual content for that field is highly inconsistent. Therefore WSDOT could not relate the outfalls to listed 303(d) water body segments. The new stormwater outfall facility information database has been designed and is being implemented to support updating/correcting the 1993-1995 data. Data edited or created with the new database will have a direct association to 303(d) listed water body segments.

The research and field information gathered for a given outfall location is then used to identify needs and approaches for retrofit, repair, or replacement of particular outfalls. After the appropriate BMP has been identified, a weighted prioritization score is derived to guide WSDOT's scoping and planning for retrofits during completion of future highway construction plans.

In addition, WSDOT has incorporated its BMP facility monitoring requirements into the Stormwater Outfall Information Database. Monitoring information for a given outfall location and associated BMP is recorded directly into the database. The revised database was uploaded onto the WSDOT computer network in April 2002 for use in ongoing programming and project development efforts.

Supporting documentation prepared in conjunction with the revisions to the database included the following:

- *Washington State Department of Transportation Stormwater Information Management System Data Dictionary, Version 1.1*, dated April 2002; and
- *Washington State Department of Transportation Stormwater Information Management System Screen Guide, Version 1.1*, dated April 2002

This revised database is currently being used as part of the current stormwater facility inventory pilot program. Continued upgrade and revisions to the database format and structure will be made following the completion of the pilot program effort. The final revised version of the stormwater facility database is scheduled for delivery and installation at WSDOT in June 2003.

## **2.2 Erosion Control Databases**

### **Temporary Erosion and Sediment Control/Spill Prevention Control and Countermeasure (TESC/SPCC) Assessment Database**

The TESC/SPCC Assessment Database was developed in June 2002 by WSDOT. The database contains site assessment information obtained from routine construction site visits. The site assessment form developed in conjunction with the database is expected to improve TESC/SPCC plan performance by helping to identify site deficiencies and by serving as a tool to ensure that the minimum requirements of the



*Highway Runoff Manual* are met and supported based on established standard specifications. The database allows WSDOT project, regional, and state managers to have site-specific and up-to-date information on TESC/SPCC performance.

#### Erosion Control Product and Service Database

The Erosion Control Product and Service Database (i.e., the Products and Services Catalog for Erosion and Sediment Control) was completed in March 2001 and is updated annually by the Erosion Control Program. The Erosion Control Products and Services Database can be accessed at the following link:

<http://www.wsdot.wa.gov/eesc/environmental/programs/hazwqec/wqec.htm>

### **2.3 Integrated Vegetative Management (IVM) and Maintenance Management Databases**

The WSDOT Maintenance Office is undertaking a pilot project to introduce a modern Highway Maintenance Management System (HMMS) to the maintenance program and to evaluate the product's fitness for full-scale implementation. The HMMS is under development, and additional information will be provided in the stormwater management program.

### **2.4 Pesticide Application Data**

State law requires that records be kept for a seven-year period following all pesticide applications. These records are intended as resources to be used during any pesticide investigation. WSDOT has developed a system of pesticide accountability for all pesticides stored, issued and used by WSDOT. There are two different computer form and record keeping systems, the *Stores Issue Form* and the *Pesticide Application Record*. The *Stores Issue* form records the WSDOT region material inventory, amount of material ordered, and designates to whom the material was issued.

The *Pesticide Application* record provides a detail record including: state road, county, date, location of application, "pest" to be controlled, method of control, weather condition (start and finish), material name, type, EPA registration number, lot number, product applied per acre, total daily usage, application information (including equipment number, calibration date, vehicle speed, nozzle pressure, width of spray pattern, method of application), operator name and license number, and pesticide sensitivity registration area.

### **2.5 Spills and Hazardous Materials Data**

A number of emergency spill tracking systems are available to WSDOT to assist the Water Quality Program with identifying high-risk spill sites along state routes. Both the Washington State Patrol (WSP) and Department of Community Development (DCD) receive complaints or reports regarding spills that have occurred statewide. The DCD forwards spill records to Ecology, which maintains a database for tracking spills. Ecology forwards information related to highway accidents to WSDOT's Transit Research and Intermodal Planning Section (TRIPS) for their comprehensive database on accidents. This information is evaluated when prioritizing outfalls for retrofits. In addition, safety improvements can be made at sites where frequent accidents occur.

Efforts to track hazardous material spills are currently conducted in conjunction with the Washington State Patrol and/or the local law enforcement agency responding to the site of an accident. The information is documented on an accident form, which currently records only whether a hazardous material was involved, and if so, if a release occurred. It does not document the material involved, the quantity released, or the clean-up status. The reporting format is currently scheduled for revision in 2005.

### **2.6 Geographic Information Systems and Mapping**

#### Environmental Information Program

WSDOT maintains an Environmental Information Program dedicated to acquiring, maintaining and applying Geographic Information System and tabular database information sets on environmental conditions and natural resource characterizations pertaining to the operation and management of the state



transportation network. This group gathers the best available digital data on environmental factors for Federal, State, local, tribal and private organizations, re-formats the data to a single standard, and supplies the agency with automated tools to use the data (custom GIS interfaces, database interfaces, web pages), or services to produce information products such as the maps and tables provided with this application. The most dynamic information sets are updated from the originators every 3 or 6 months, while more periodic data is updated as released.

#### Sensitive Area Mapping

In part to identify maintenance activities with stormwater related impacts and respond with appropriate BMPs, WSDOT is in the process of marking and mapping environmentally sensitive areas in the field. The purpose of this mapping project is to identify all sensitive area locations and to provide guidance to WSDOT maintenance crews so that BMPs may be applied to eliminate or reduce impacts of maintenance activities on streams, wetlands, and water bodies. This effort was identified and summarized in the 6th Year NPDES Annual Report (WSDOT 2001).

### 3. Coordination

**Statewide Stormwater Application:** *Describe coordination with municipal stormwater permittees, other intergovernmental coordination, and internal coordination.*

While there is no formal forum or meeting format established, WSDOT has met from time to time with the other NPDES Phase I municipal stormwater permittees on an as-needed basis. Up until the point when the decision was made to seek its own statewide permit, WSDOT had been meeting regularly with the Phase I co-permittees in regard to permit re-issuance.

WSDOT has also been an active participant on several interagency forums that address statewide watershed-based policy issues, including:

- State of Washington Cooperative Sediment Management Program
- American Public Works Association Stormwater Managers Committee
- University of Washington Research Consortium on Urban Non-Point Source Pollution
- Puget Sound Action Team
- Governor's Watershed Coordinating Council
- Coordination of data management through a Data Summit on Natural Resources and the development of a prototype Integrated Natural Resource Data System (INRDS)
- Interagency development of Alternative Mitigation Guidelines
- Salmon Habitat Protection and Restoration Standards and Guidelines
- Water Quality Partnership
- The Washington Comprehensive Monitoring Strategy for Watershed Health and Salmon Recovery
- ESB6188 Environmental Permit Streamlining Act of 2001 and the resulting Watershed Mitigation Sub-committee

Several of these coordination activities are described in more detail in the sections below.

WSDOT expects to continue to participate in the development and implementation of local Watershed Action Plans, Basin Plans, and Clean Up Plans subject to adequacy of staff resources. WSDOT also expects to participate in the assessment of Total Maximum Daily Loads (TMDLs), when WSDOT has facilities in the watershed for which the TMDL is being established.



### 3.1 ***Watershed Prioritization Processes***

WSDOT has proposed to the Governor's Watershed Coordinating Council to work with others to target individual watersheds where enhanced coordination for mitigation activities could have substantial benefits for wetlands, water quality, and the ecological health of the basin. All Council Members, including the EPA's representatives and local jurisdictions within the target watersheds, have supported WSDOT's proposal. The Council identified the Snohomish, Nooksack, Chehalis, and Yakima watersheds as primary candidates for better interagency coordination, and for off-site, out-of-kind mitigation based on allocating mitigation funds for the overall ecological benefit to the watershed.

WSDOT has presented a proposal to the Council to begin to work with others in the target watersheds. Promoting enhanced coordination for mitigation activities, including stormwater, could have substantial benefits for the ecological health of the entire basin. The Snohomish Basin was selected for demonstrating WSDOT's ability to incorporate a watershed-based approach into the project development process.

### 3.2 ***WSDOT and The Transportation Permit Efficiency and Accountability Committee***

In May 2001, the Washington State Legislature passed Engrossed Senate Bill (ESB) 6188, the Environmental Permit Streamlining Act (Revised Code of Washington, Chapter 47.06) to streamline environmental permitting processes for transportation projects. The bill creates an interagency Transportation Permit Efficiency and Accountability Committee (TPEAC), which is responsible for creating a sustained focus on achieving both the transportation and environmental goals of the state while expediting environmental regulatory processes. TPEAC created six sub-committees to address permit streamlining. One of these sub-committees focused on watershed-based mitigation and consisted of representatives from key local, state, and federal agencies, as well as conservation and environmental groups.

In September 2001, the Watershed-based Mitigation Sub-committee (Watershed Sub-committee) was formed and assigned tasks. On April 2002, the Watershed Sub-committee presented TPEAC with a conceptual framework for watershed-based mitigation planning. Working with Federal Highway Administration (FHWA) and other federal and state agencies, WSDOT assembled an interdisciplinary technical team to develop, test, and evaluate watershed-based mitigation methods for a three-mile segment of State Route (SR) 522 safety and improvement project in Snohomish County, Washington. A draft report for this project is currently under peer review, with additional beta tests on an urban transportation project scheduled for 2003. In addition to methods refinement, the beta test project will be used to: a) identify information that can be developed and used to improve NEPA/SEPA documentation; and b) explore tools that can be used to identify and prioritize transportation projects that can benefit most from watershed characterization.

### 3.3 ***Maintenance Coordination***

#### Interagency and Interjurisdictional Cooperation and Agreements

WSDOT allocates maintenance responsibilities between WSDOT and Washington cities according to an MOU signed with the Association of Washington Cities. (*City Streets as Part of State Highways – Guidelines reached by WSDOT and AWC on the Interpretation of Selected Topics of RCW 47.24 and Figures of WAC 468-18-050 for the Construction, Operations and Maintenance responsibilities of WSDOT and Cities for such streets*, April 30, 1997).

### 3.4 ***Highway Runoff Manual (HRM) Revision Technical Team***

WSDOT has assembled an interdisciplinary technical team, the *HRM Revision Technical Team*, to develop a Highway Runoff Manual consistent with Department of Ecology's stormwater management guidance. This team is made up of designers; hydrologists; erosion control, water, quality, and stormwater specialists; landscape architects; and geotechnical and hydraulic engineers.



The team also includes local jurisdictional representatives from King and Thurston counties. The Thurston County representative also happens to currently serve as the West District President of the Washington Association of County Engineers. The technical team has also involved Department of Ecology staff to collaboratively develop solutions that can address the underlying interests and needs of each agency.

### **3.5 Lake Union Ship Canal Stormwater Research Facility**

WSDOT is participating in a Stormwater BMP Verification Program under the EvTEC program. A test site has been constructed at the Interstate 5 bridge over the Lake Union Ship Canal to evaluate various technologies. Testing is currently underway. Additional information can be found on the web site: [http://www.cerf.org/evtec/eval/wsdot\\_qr.htm](http://www.cerf.org/evtec/eval/wsdot_qr.htm)

### **3.6 Puget Sound Water Quality Action Team**

The Puget Sound Water Quality Action Team works with tribal and local governments, community groups, citizens and businesses, and state and federal agencies to develop and carry out two-year work plans that guide protection of water quality and biological resources in the Sound. The biennial work plans are based on the Puget Sound Water Quality Management Plan, Washington's strategy for protecting Puget Sound. Douglas MacDonald, Secretary of Transportation, represents WSDOT on the team.

### **3.7 Eastern Washington Stormwater Manual and Model Program Development**

WSDOT participants in the Eastern Washington Stormwater Steering Committee. This committee is overseeing the production of the Stormwater Management Manual for Eastern Washington and the Model Municipal Stormwater Program for Eastern Washington. A WSDOT representative is involved with the full committee and both subcommittees.

### **3.8 National Cooperative Highway Research Program (NCHRP)**

WSDOT is involved with the NCHRP in several relevant research areas. In particular, NCHRP is funding a project on "Development of a Low-Impact Development Design and Construction Manual for Transportation Systems" (Project 25-26, FY 2003). WSDOT serves on the overview and evaluation committee to review work submitted by the research team assembled for this project. Additional information on this project can be found at:

<http://www4.trb.org/trb/crp.nsf/f42b364caa3b01038525672f00635743/d3efcb45153101d785256b990045480b?OpenDocument>

## **4. Public Involvement**

**Statewide Stormwater Application:** *Describe opportunities for the public to participate in development and implementation of the SWMP.*

### **4.1 Permit Development**

WSDOT and Ecology jointly announced to the Water Quality Partnership in the Fall of 2002 that WSDOT was considering application for the subject permit. WSDOT subsequently decided to apply for the subject permit and Ecology subsequently placed information on this decision on their agency's public web site. WSDOT is working with the Department of Ecology to craft a public involvement process for NPDES permit development.

### **4.2 WSDOT Transportation Project Review**

Public input is sought during the development of Washington's state transportation plan, and during the planning and design of specific construction projects. Public meetings are held to disseminate information and obtain input on environmental, social, and economic tradeoffs associated with various modal and design options. In addition, the public is notified of environmental documentation in order to meet reporting requirements of various environmental laws. Public hearings are held for projects that require an



environmental impact statement or environmental assessment under the National and/or State Environmental Policy Acts (NEPA and SEPA). For example, the water quality discipline reports, which are part of the NEPA process, are available for public review and include an alternatives analysis related to stormwater management. In addition, to comply with the NPDES General Permit for Construction Activity, WSDOT advertises its application for a permit in local newspapers. The Public has a 30-day opportunity to review and comment on the Temporary Erosion Control Plan.

#### **4.3 WSDOT's Activities through the World Wide Web**

WSDOT's Water Quality Unit maintains an Internet site at:

<http://www.wsdot.wa.gov/eesc/environmental/WaterQuality.htm> to disseminate information to the public about its current programs. Reports, guidance documents, monitoring data, and annual reporting information are made available through the Water Quality Unit's web site.

#### **4.4 Highway Runoff Manual Revision**

WSDOT has and will continue to provide opportunities for external comments during the revision of its Highway Runoff Manual.

### **5. Control Runoff from New Development and Redevelopment**

**Statewide Stormwater Application:** *Describe programs to incorporate stormwater controls into the design and construction of new development and redevelopment projects, including the Highway Runoff Manual and compliance assurance.*

#### **5.1 Stormwater Controls for New Development/Redevelopment Projects**

WSDOT is committed to providing both water quantity and water quality treatment for new impervious surfaces, where practicable or to provide treatment for equivalent areas of impervious surface, either elsewhere within a project's limits or in a watershed-based mitigation approach. WSDOT's Highway Runoff Manual provides guidance for stormwater management for new development and redevelopment. This manual is undergoing revision for consistency with the Department of Ecology's new stormwater guidance manuals (i.e., the 2001 Stormwater Management Manual for Western Washington and the Stormwater Management Manual for Eastern Washington currently under development.).

#### **5.2 Endangered Species Act (ESA) Stormwater Effects Guidance Instructional Letter**

WSDOT has been designated a non-federal representative by the Federal Highway Administration and the Seattle District, Corps of Engineers, which authorizes WSDOT to consult directly with the U.S. Fish and Wildlife Service and NOAA-Fisheries pursuant to Section 7 of the Endangered Species Act (ESA). WSDOT's Stormwater Effects Guidance Instructional Letter (IL 4020.02 dated Feb. 25, 2002) is guidance for design and scoping of the stormwater treatment components of projects that fall within an Evolutionary Significant Unit or Distinct Population Segment of a listed species. The instructional letter provides interim guidance on making stormwater-related effect determinations for biological assessments that are prepared for NOAA-Fisheries and USFWS.

While publication of Ecology's new stormwater guidance manuals have removed uncertainty over what Ecology will require for stormwater treatment generally, how these requirements apply specifically to WSDOT still needs to be resolved through revision of the Highway Runoff Manual (HRM). The instructional letter provides transitional criteria between the 1995 HRM and the revised HRM to be published in 2004.

#### **5.3 Other Regulatory Programs**

Other state and local regulatory permits or approvals can influence the design of stormwater treatment for a project, depending upon the location of the project and other project attributes. These permits include



water quality certifications pursuant to §401 of the Clean Water Act, and critical area ordinance permits pursuant to the state Growth Management Act.

## 6. Construction Site Erosion and Sediment Control

**Statewide Stormwater Application:** *Describe programs to control erosion and prevent sediment transport at construction sites, including the Highway Runoff Manual, training, implementation and compliance assurance.*

WSDOT's staff is responsible for overseeing construction and highway project Temporary Erosion and Sediment Control (TESC). This is achieved through Erosion Control Program training for employees and contractors; technical assistance for construction projects; maintenance of applicable database sources; and evaluation of existing and new erosion control practices for efficacy. The following discussion outlines WSDOT's current erosion control activities related to NPDES permit requirements.

### 6.1 TESC Implementation

An important role of program staff is to provide technical assistance to WSDOT's design and construction offices. This assistance includes: (1) reviewing TESC plans, (2) providing consultations on BMP selection and implementation procedures, (3) providing technical support with regard to erosion and sediment control policy and procedures, and (4) conducting field site reviews. The Erosion Control Program strives to respond to all field technical assistance requests within 24 hours and to provide phone consultations within 4 hours.

In addition to responding to specific technical assistance requests, a statewide assessment of construction sites was performed in the Fall of 2001 and 2002. Within the WSDOT Northwest, Olympic, and Southwest Regions, which are those regions located within the Phase I NPDES permit areas, a total of 30 site assessments were completed in 2001 and 45 in 2002. Each site was evaluated and rated for overall risk, erosion control considerations, off-site impact potential, and site damage. Sites that were assessed as a high risk were then closely tracked.

Recently, substantive changes have been made to WSDOT's Standard Specifications for erosion and spill prevention on construction projects. These changes were made to provide WSDOT with sufficient contractual control to enforce erosion and spill prevention requirements on construction sites to the standards set in NPDES construction permits. During 2002, Section 8-01 of WSDOT's *Standard Specifications for Road, Bridge, and Municipal Construction, M41-10*, was amended to provide contract language for more effective enforcement of erosion and sediment control measures.

#### Databases

Section 2.2 described databases for site assessment information on construction sites (TESC/SPCC Assessment Database) and erosion control products. As a part of the process of maintaining the erosion control products database, WSDOT evaluates new products and procedures, for the WSDOT's use on construction and maintenance projects. A New Products Committee reviews the information for approval or for addition to the qualified products list (QPL). The committee meets on a quarterly basis. If a product is approved it is included into the QPL. The QPL can be accessed at:

<http://wsdot.wa.gov/fossc/mats/qpl/QPL.cfm>

#### Training

All WSDOT contractors are required to have a certified Erosion and Sediment Control (ESC) lead working on the project. Section 12.1.1 describes this WSDOT erosion control training program.



## 6.2 Construction site water quality monitoring

In July of 2002, WSDOT adopted standard construction site water quality monitoring protocols (WSDOT Instructional Letter IL 4049.00). The protocols are used to assess how effectively TESC protects receiving waters near high-risk construction projects. Monitoring data will be used to 1) document compliance, 2) confirm the accuracy of the broader site assessment program, 3) measure the effectiveness of BMPs, 4) refine risk criteria in order to improve resource allocation, and 5) identify potential improvements in training/BMPs design/contract language.

## 7. Existing Development Runoff Control (Retrofitting)

**Statewide Stormwater Application:** *Describe the status of programs to implement stand-alone stormwater BMP retrofits.*

Stormwater retrofit projects are subject to state legislature funding approval.

### 7.1 Stormwater Outfall Inventory and Retrofit Program

Identification of stormwater conveyance system outfalls and potential retrofit, repair, or replacement is critical activity at WSDOT. Efforts have been made to support this activity and provide management tools to proceed with program implementation. WSDOT conducted its initial inventory of stormwater facilities over the period from approximately 1993 to 1995, and at that time created a database containing inventory records for approximately 3,700 facilities. A retrofit prioritization index was developed in conjunction with the initial inventory effort, and approximately 600 stormwater outfalls were assigned a prioritization index based on a set of variables assessing potential water quality impacts and costs and benefits of retrofits.

Over the past year, the outfall inventory database that was developed initially was substantially revised (see section 2.1); a supplemental stormwater facility re-prioritization effort was completed; and efforts have been initiated to standardize procedures for conducting stormwater inventories and to prioritize locations for retrofit, repair, or replacement.

#### Outfall Location Reprioritization and ESA Issues

WSDOT recently revised the stormwater facility retrofit prioritization index to address the possible presence of ESA-listed anadromous fish species, and to make a series of other modifications and updates to the database structure. These modifications were made in coordination with an inter-agency committee convened to address a range of issues relating to the environmental retrofit program. The revised stormwater facility prioritization index and ranking system was then used to re-prioritize 623 outfall locations in the original stormwater facility database. A summary of the modifications made to the stormwater facility retrofit prioritization index is provided as follows:

- **Beneficial Uses of the Receiving Water Body:** Modifications to the index were made to address considerations of hydraulic connection and relative distance to the subject receiving water body and the ESA salmonid listing status for the receiving water body.
- **Highway Contribution to Total Runoff in Watershed:** Consideration of percent highway drainage contributing to the watershed was supplemented with a new parameter including total impervious surface area contributing to the watershed.
- **Highway Contribution to Runoff:** Updated information pertaining to average daily traffic (ADT) counts was also incorporated into the revised prioritization index and considered in the re-prioritization process.



- **Quality of Receiving Water:** Additional modifications were made to the index to give additional weight to marine water and Class AA and B receiving waters to address ESA considerations.
- **BMP Capital Construction Cost:** Revised preliminary cost estimates, based on unit costs, for construction of stormwater facilities at the specified locations were incorporated into the re-prioritization process.

The results of these revisions to the prioritization indices were distributed to each of the WSDOT regions for use in scoping candidate retrofit projects for the upcoming biennium. Implementation of stand-alone retrofit projects is contingent on the availability of funding.

#### Stormwater Outfall Inventory Pilot Program

WSDOT has initiated a pilot-scale stormwater facility inventory and training program beginning in December 2002. The primary intent of this effort is to provide a comprehensive assessment of the revised stormwater management retrofit planning and database programming systems, and to develop an inventory and prioritization process for distribution and implementation throughout the state. A training program was developed to promote consistency in interpretation with regard to observed field conditions, effective selection of mitigation technologies, and accuracy in the development of preliminary cost estimates for BMP implementation.

Another goal of the pilot program is to ensure that all location-specific research (e.g., watershed area definitions and planning status, critical habitat designations per the ESA, receiving water quality) is collected and processed in a manner that supports consistent data management and subsequent stormwater facility prioritization efforts. Substantial revisions have been made to the electronic user interfaces that are utilized during the inventory process, and the prioritization process is now an automated function of the revised stormwater facility inventory database.

#### **7.2 New Structural Stormwater Facilities**

Construction of BMPs to treat WSDOT's highway runoff is believed to be the most efficient way to promote compliance with state water quality standards. WSDOT regional offices are required to investigate upgrading stormwater facilities during a highway improvement project. Feasibility of upgrading largely depends on availability of funding and the adequacy of right-of-way for new stormwater facilities.

As specified and required under WSDOT's Highway Runoff Manual (ID No. M 31-16, 1995) and the *Stormwater Management Manual for Western Washington* (Ecology 2001), whenever a roadway is expanded by greater than 5,000 square feet of impervious surface, WSDOT constructs permanent facilities for treatment of stormwater quality and quantity. Table 7-1 provides a summary of facilities constructed between July 2001 and July 2002 in the Phase I NPDES Permit areas. Appendix A of the 2002 WSDOT NPDES MS4 Progress Report includes a description of each BMP type with milepost, offset direction, and facility size (where available) for the Phase I NPDES Permit areas.

In addition to the structural stormwater facilities listed in Table 7-1, there are also many vegetated conveyances, filter strips, and buffer zones along many state highways that function as stormwater BMPs, but were not engineered specifically for that purpose.



**TABLE 7-1. STRUCTURAL STORMWATER FACILITIES  
COMPLETED IN THE PHASE I NPDES PERMIT AREAS DURING THE 2001/2002 CONSTRUCTION  
SEASON**

Project Designation	Number and Type of Structural BMPs Constructed			
	Open Water Detention <sup>1</sup>	Detention Vaults <sup>2</sup>	Infiltration Pond <sup>3</sup>	Linear Treatments <sup>4</sup>
SR 500 – Thurston Way Interchange	1			
SR 500 – Ward Road to NE 162nd Avenue – Stage 1				28
SR 503 – NE 76th Street to NE 144th Street		4	1	
SR 20 – Zylstra Road				2
SR 20 – Damnation Creek Bridge				6
SR 520 – Bike Path – Bellevue to Redmond				1
SR 5 – Null Road to Sammamish		7		1
SR 522 – Paradise Lake Road	3			2
SR 516 – Wax Road to Cedar Heights				3
SR 2 – Snohomish River to Cavalero Corner	5			
SR 18 – Holder Creek	1		1	
SR 405 – Bothell to Swamp Creek	1	5		4
SR 525 – Cameron Road to SR 20		3	3	14
SR 525 – SR 99 Interchange	6	6		
SR 5 – 38 <sup>th</sup> Street Interchange	4			
SR 5 – Sleater Kinney Interchange to College St O'Xing				1
SR 16 – Sprague Avenue I/C to Snake Lake – HOV	2			
SR 99 – 62nd Avenue East to King County Line	2			1
SR 167 – River Road Safety Improvements				1
SR 509 – Port of Tacoma Road Grade Separation	3			4
SR 510 – SR 5 to Pacific Avenue			3	
SR 507 – Bald Hill Road to MP 36.5				1
<b>Totals</b>	<b>28</b>	<b>25</b>	<b>8</b>	<b>69</b>

<sup>1</sup> Open water detention includes detention ponds, wet ponds, and combination ponds.

<sup>2</sup> Detention vaults include drywells, wet vaults, swirl concentrator vaults, and oil/water separators.

<sup>3</sup> Infiltration pond includes infiltration ponds and dry ponds.

<sup>4</sup> Linear treatments include biofiltration swales, infiltration trenches, ecology ditches, and vegetated ditches.

It is the expectation of WSDOT that the stormwater retrofit program will continue identification of priority outfalls for retrofit, balance stand-alone retrofits with those done as part of highway improvement projects, balance retrofit requirements with available funding, and to develop a realistic schedule for completing priority outfall retrofit projects subject to funding.

## 8. Vegetation Management

**Statewide Stormwater Application:** *Describe the status of programs to reduce pollutants associated with the application of pesticides, herbicides and fertilizer.*

### 8.1 Roadside Integrated Vegetation Management (IVM) Program

WSDOT has initiated an *Integrated Vegetation Management (IVM)* program for roadside maintenance activities. To achieve an overall reduction in water pollutants, WSDOT strives to create and maintain roadsides that are naturally self-sustaining to the greatest degree possible.



The majority of WSDOT's roadside herbicide and fertilizer use occurs in the maintenance program. These materials are used in combination with mowing and cutting, and other biological and cultural management techniques, to control undesirable vegetation and encourage vegetation that does not conflict with highway operation and maintenance. Roadsides are maintained as nearly as possible in their natural condition and in a manner that contributes to roadway safety and reliability.

WSDOT uses chemical controls in the optimum weather conditions, using trained licensed operators and with strict adherence to the manufacturer's label directions. These practices help prevent pollutant discharges to stormwater.

IVM is based on the definition and principles of Integrated Pest Management as described in RCW 17.15. WSDOT has developed a guidance document for the application of these principles in the processes of roadside vegetation management (Integrated Vegetation Management for Roadsides, WSDOT 1997). IVM solutions are dynamic and vary depending on site-specific conditions. Therefore, IVM must be integrated at the local level within the individual maintenance areas throughout the state.

In order to facilitate the application of IVM at the local area level, WSDOT is engaged in a series of ongoing programs and projects:

- Annual training and development of an online information access system for the appropriate use of herbicides and IVM solutions. (See section 12.1.3)
- Compliance with certification and licensing requirements for all WSDOT herbicide applicators. (See section 8.3)
- Maintenance of a database for all herbicide applications made by WSDOT or made by others on WSDOT right of way. (See section 2.4)
- Development and implementation of a statewide roadside vegetation management planning and tracking system through selected pilot projects.
- Research and evaluation of statewide policy and practices with regard to roadside vegetation management.

## **8.2 IVM – Pilot Project**

WSDOT began a pilot project in 2002 to facilitate statewide implementation of the IVM and to better account for results. WSDOT will develop information management tools to: (1) plan consistent routine maintenance activities, (2) identify and prioritize vegetation problem areas, (3) develop long-term treatment strategies, (4) document actions taken to carry out treatments, and (5) monitor the effectiveness of maintenance treatments.

The Interstate-5 corridor has been selected as the pilot project study area. The objective of this project is to identify and implement revised maintenance practices, which improve the roadside while reducing long-term maintenance costs. The Interstate-5 Corridor Roadside Vegetation Management Plan documents parameters for roadside vegetation maintenance activities and outcomes by milepost, and establishes a data management system for assessing the effectiveness of treatment measures. An additional component of the system will be a database of plant-specific BMPs and IVM treatment prescriptions.

## **8.3 Pesticide Applicators Certification and Recertification**

WSDOT employees engaged in pesticide application obtain a pesticide applicators license from the Washington State Department of Agriculture (DOA) prior to handling pesticides or giving recommendation on the use of pesticides. DOA's licensing program requires employees to attend 16 hours of training and completion of an examination in a DOA approved training course. Recertification is accomplished through 40 hours of accredited training courses completed in a five-year period.



WSDOT's annual herbicide training program includes such topics as principles, methods, techniques, safety, record keeping, and public relations. A portion of this DOA-approved 16-hour course counts toward the pesticides applicators re-certification.

Record keeping associated with pesticide handling and application is discussed in section 2.4.

## 9. Illicit Discharge Control

**Statewide Stormwater Application:** *Describe the status of programs to prevent non-stormwater discharges into the stormwater drainage system, including identification and elimination of illicit connections, and preventing and responding to dumping and spills.*

### 9.1 Illicit Discharge

During the initial WSDOT stormwater facility inventory within NPDES permit areas in 1993-95, observations of illicit discharge connections were generally noted in field records and outfall inventory forms. As a result of this initial inventory, it was determined that illicit discharge does not present a significant water quality impact problem on the state highway system.

### 9.2 Accidental Discharges - Spill Prevention and Containment

Maintenance crews sometimes encounter emergencies associated with transportation accidents and less frequently with natural disasters (e.g., landslides, floods, fires, washouts). Traffic accidents on highways occasionally result in the release of hazardous materials. If those responsible for the hazardous materials release cannot be identified or made to contain and clean up the release, the Department of Ecology (Ecology) assumes these responsibilities.

WSDOT staff are instructed to take only the emergency actions required to protect human life and property until the Washington State Patrol (WSP) has gained control of the situation. The WSP has the responsibility for safety measures and coordination of the clean up of spilled substances. The role of WSDOT maintenance personnel is to manage traffic at incidents on state highways. This is conducted in support of the overall incident management effort. WSDOT personnel can also provide technical information (i.e. information on drainage system characteristics) in support of the incident response. However, maintenance personnel who are trained to do so will take control actions when necessary and feasible to prevent a release of small quantities of petroleum products into surface waters.

Efforts are underway to develop a memorandum of understanding between Ecology, State Patrol, and WSDOT regarding responsibilities for hazardous material spill response.

Databases tracking emergency spill response and hazardous materials are described in section 2.5.

Accidental spills of hazardous materials on construction sites are prevented and their impacts minimized through implementation of Spill Prevention Control and Countermeasures (SPCC) Plans, as required by the Standard Specifications. See section 6.1 of this application.

## 10. Operation and Maintenance

**A. Statewide Stormwater Application:** *Road operation and maintenance BMPs: Describe the status of programs to reduce stormwater impacts associated with operation and maintenance of roads and highways, including: pipe cleaning, cleaning of culverts that convey stormwater in ditch systems, ditch maintenance, street cleaning, catch basin and inlet cleaning,*



*road surface repair and resurfacing (including pavement grinding), snow and ice control, utility installation, dust control, pavement striping maintenance.*

### 10.1 WSDOT Maintenance Manual, M 51-02, March 2002

The purpose of the Maintenance Manual is to provide maintenance personnel with guidance on how to conduct a wide variety of activities performed in the maintenance programs. The focus is on equipment, materials, techniques, and other information needed to properly carry out basic maintenance activities such as patching a pothole or removing snow from a roadway.

### 10.2 Maintenance Practices for Operating Highways

WSDOT is developing a maintenance management system that will enable the collection of information quantifying repairs to structural controls, and highway sweeping. Also being developed is a field information tracking system for tracking the use of snow and ice control materials.

Table 10-1 depicts maintenance activities related to stormwater, dollars spent and staff hours devoted to these activities.

<b>TABLE 10-1. BUDGET AND PERSONNEL HOURS ALLOCATED TO STORMWATER FACILITY O&amp;M ACTIVITIES AS TRACKED THROUGH THE TRANSPORTATION ALLOCATION INFORMATION SYSTEM</b>		
<b>O&amp;M Activity Type</b>	<b>Dollars Spent in 2001/2002</b>	<b>Personnel Hours 2001/2002</b>
Grade/Reshape Shoulder	1,197,000	23,800
Sweeping and Cleaning Pavement	2,979,000	48,100
Ditching and Channel Maintenance	3,926,000	46,100
Culvert Maintenance	1,604,000	34,700
Catch Basin and Inlet Maintenance	1,311,000	29,200
Detention/Retention Maintenance	257,700	3,700
Miscellaneous Drainage Maintenance	960,600	6,300
Weed Control Fertilizing and Liming	55,500	1,200
Residual Herbicide Application	1,527,100	17,800
Landscape Fertilizer and Liming	16,100	300
Litter/Litter Bag Clean-up	1,936,000	44,400
Winter Sand Clean-up	2,089,300	39,500
Sanding	7,589,500	52,400
Anti-icing and De-icing Chemical Application	3,822,300	22,000
Winter Drainage Maintenance	192,100	5,300
Hazardous Waste/Spill/Debris Clean-up	287,200	5,700
<b>Total</b>	<b>\$29,750,400</b>	<b>380,500</b>

### 10.3 Regional Road Maintenance ESA Program

The "Regional Road Maintenance ESA Program" ([www.metrokc.gov/roadcon/bmp/pdfguide.htm](http://www.metrokc.gov/roadcon/bmp/pdfguide.htm)) is WSDOT's mechanism to support a road maintenance program that appropriately protects aquatic habitat conditions. Program elements, combining policy, management, and field practices are combined into fifteen maintenance categories listed below.

1. Roadway Surface.
2. Enclosed Drainage Systems.
3. Cleaning Enclosed Drainage Systems.
4. Open Drainage Systems.
5. Watercourses and Streams.



6. Stream Crossings.
7. Gravel Shoulders.
8. Street Surface Cleaning.
9. Bridge Maintenance.
10. Snow and Ice Control.
11. Emergency Slide/Washout Repair.
12. Concrete.
13. Sewer Systems.
14. Water Systems.
15. Vegetation.

The program manual contains detailed BMPs for road maintenance that can be summarized as:

- Minimize erosion and sedimentation as a result of road maintenance activities or tasks;
- Contain pollutants generated from maintenance activities; and
- Identify and maximize opportunities for implementing habitat protection and maintenance features.

#### ***10.4 Ice and Snow Control***

During winter, the primary focus of highway maintenance is to protect highway-driving conditions from snow and ice, and patrol the roadway for early detection of slides, icing, and other winter hazards. This includes ten mountain passes that remain open year round. On Snoqualmie and Stevens Passes, avalanche crews monitor and attempt to control potential avalanches before they are a hazard to the traveling public. When snow and ice build-up on the roadway surfaces, sand is applied to provide a safer driving condition. In some critical locations "deicing" chemicals may be applied to deter icing before it occurs.

Timing: Exact timing for control of snow and ice varies year to year and throughout the winter season depending on the weather patterns.

Equipment: Typical equipment may include dump trucks with a sander and a plow, motor grader, deicer tanker/truck, pickup truck, front-end loader, snow blower, pickup and side cast sweepers, vactor, and loader.

General Conditions: Snow and ice control takes place wherever snowfall, freezing rain, freezing fog, frost or black ice events occur within the road surface throughout the state. Thresholds for action are set by the professional judgment of maintenance crews or the Washington State Patrol.

WSDOT plans and prioritizes winter maintenance activities based on traffic/safety critical areas, levels of service for roads, and methods for maintaining levels of service. Environmental concerns include possible damage to roadside vegetation, deposition of sand on nearby aquatic environments, and the contribution of abrasives to air pollution.

WSDOT personnel trained in winter maintenance practices and apply sand and deicing chemicals, avoiding applications that would have negative water quality impacts if driving safety goals are not diminished.

Sand and deicing chemicals used by WSDOT are expected to be free of excessive levels of contaminants. Liquid deicer storage secured by secondary containment where the possibility of accidental releases into surface or ground waters exists.

WSDOT assists in species protection by continuing to conduct studies and/or contribute funds for development of non-polluting, snow control and deicing agents.



### **10.5 Roadway Sweeping**

WSDOT also conducts roadway sweeping to remove large particulate matter that would have otherwise entered the stormwater systems. Information on WSDOT's expenditures related to sweeping activities are described in section 10.2.

### **10.6 Training**

Maintenance personnel are also trained on a variety of roadway and roadside maintenance procedures. This training is described in section 12.2.1.

**B. Statewide Stormwater Application:** *Maintenance of stormwater treatment and flow control BMPs:* Describe the status of programs to maintain stormwater treatment and flow control BMPs, including: maintenance standards, inspections, conducting the maintenance, and record keeping.

Chapter 4 of the WSDOT Maintenance Manual (March 2002) describes the maintenance of the following types of facilities:

- Ditches and gutters
- Rockfall ditches and slope benches
- Dry wells
- Culverts
- Automatic pumps
- Under drains
- Storm sewers
- Bank Protection
- Detention ponds and tanks
- Oil separators

### Washington State Ferries

WSF performs the following actions to manage stormwater runoff from ferry terminals:

- Periodic inspections of ferry terminal holding areas (parking lots) and associated catch basins
- Cleanup/sweep holding areas and catch basins as deemed necessary by the inspections
- Immediately respond to and cleanup any spills that occur

## **11. Stormwater Pollution Prevention Plans**

**Statewide Stormwater Application:** *Describe the status of SWPPPs for non-highway facilities including maintenance facilities, ferry terminals, park & ride lots, rest areas and weigh stations.*

The following list of facilities either have a stormwater pollution prevention plan or are expected to have a stormwater pollution prevention plan written in the near future:

- Tumwater Field Exploration Storage Facility (Completed)
- Whidbey Island SMF (Completed)
- Northup Site Renovations (Draft)
- Corson Ave Site Renovations (Draft)
- Wenatchee Consolidated Shops (By consultant if required)
- Mottman Pavement & Sewer Connection (Completed)



- Vancouver Quality Engineering Center (Draft)
- Pullman Site Improvements (By consultant if required)
- Sedro Wooley Facility (Completed)

#### Industrial General Stormwater Permit

Washington State Ferries (WSF) has one facility covered under the industrial general permit: the Eagle Harbor Repair Facility (permit number SO3001066). A SWPPP has been developed, and a monitoring plan has been completed.

A number of WSF ferry terminals were historically covered under Ecology's Industrial General Stormwater Permit (Anacortes, Bremerton, the Colman Dock and Pier 46, Edmonds, Fauntleroy, Kingston, Mukilteo, and Port Townsend). WSF submitted Notices of Termination (NOTs) to Ecology for these facilities on December 10, 2002 because they did not fit into the definition of a "transportation facility engaged in an industrial activity." Although coverage was terminated, WSDOT has responsibility to manage stormwater runoff from these facilities and continues its efforts to effectively manage the stormwater discharged from its ferry terminals. These facilities will be included in WSDOT's statewide municipal stormwater management program.

## **12. Education and Training**

**Statewide Stormwater Application:** *Describe stormwater related employee training programs and WSDOT construction contractor training programs. Also describe public education efforts aimed at informing the public about WSDOT stormwater quality issues, and public behavior affecting WSDOT stormwater runoff.*

### **12.1 Stormwater Related Employee and Contractor Training Programs**

#### **12.1.1 Erosion Control Training Programs**

All contractors are required to assign a certified A certified Erosion and Sediment Control lead to each of their WSDOT construction projects. Certification is established through attendance at the Construction Site Erosion and Sediment Control Certification Course (12 hours). Over 1000 people, including 383 WSDOT employees, took the certification course during 2001/2002, through course offerings by WSDOT as well as other organizations including the AGC of Washington Education Foundation, the Inland Northwest AGC, and the Northwest Laborers Employers Training Trust Fund. The course curriculum has been updated to address Ecology's 2001 Stormwater Management Manual for Western Washington and WSDOT's Standard Specifications for *Road, Bridge and Municipal Construction* (WSDOT Engineering Publication M 41-10 as amended.). In 2002, 74 out of the 75 WSDOT projects involving earthwork were covered by certified ESC leads (one contractor whose certification had expired was required to recertify at the next available course).

#### **12.1.2 Maintenance Procedures Training**

It is the responsibility of maintenance personnel to understand and correctly implement environmental protection BMPs for a variety of maintenance activities. WSDOT trains maintenance personnel and provides environmental instruction to support their responsibilities.

ESA training for maintenance personnel is a substantial component of this environmental instruction, and description of it is included here because ESA training supports water quality protection. ESA 102 "Field Maintenance Crew Overview" is comprised of an ESA overview of protected species in Washington, how maintenance activities are affected by listings, and measures for environmental protection and ESA compliance. This serves as the base upon which other, more activity-specific training can be added. This



training course will be provided to all WSDOT maintenance personnel on an as needed basis to assure that all maintenance personnel are properly oriented to ESA issues and updated information is provided. This baseline information will be supplemented with other ESA-related training courses for maintenance personnel as needed to complete their individual job duties. These courses include:

ESA 103, The Guidelines, and Erosion and Sediment Control – Provide in-depth understanding of the Regional Road Maintenance ESA Program Guidelines, and ESA 4 (d) BMPs of Erosion and Sediment Control while stressing individual impact on water quality and habitat.

ESA 104, Emergency Response – Differentiate between Emergency and Unscheduled Routine Road Maintenance and the ESA 4(d) BMPs for each.

ESA 105, Roadway Surface Maintenance and Operations – Provide in-depth understanding of ESA 4 (d) BMPs of Patching, Repairing, Crack Sealing, Shoulder Maintenance, Sweeping and Cleaning, and Miscellaneous Roadway Maintenance.

ESA 106, Roadside Vegetation Maintenance – Provide in-depth understanding of ESA 4 (d) BMPs of Litter Pickup, Control of Noxious Weeds: Class A or B, and Nuisance and Obstructive Vegetation while minimizing the risk of “Take” and the legal obligations thereof.

ESA 107, Drainage Facilities – Provide in-depth understanding of ESA 4(d) BMPs of Ditches, Channels, Culverts, Catch Basins & Inlets, Detention and Retention Basins, and Slope Repair.

ESA 109, Snow and Ice Control – Provide in-depth understanding of ESA 4(d) BMPs of Snow and Ice Control while stressing proper procedures to avoid adverse impact on receiving waters.

ESA 110, Bridge Maintenance – Provide in-depth understanding of ESA 4(d) BMPs of Deck and Structural Repair, Cleaning and Painting, and Movable and Floating Bridges while minimizing the amount of materials entering waterways and the risk of ‘Take’.

Additional practices detailed in this document will be incorporated into existing training courses. Elements of the maintenance training and outreach program include:

Annual statewide maintenance engineers' meetings - These meetings are utilized to discuss ESA-related policy and operational issues with regional Maintenance Engineers so ESA issues can continue to be incorporated into the management of regional maintenance programs.

Bi-monthly regional maintenance superintendent meetings – These meetings are utilized to discuss ESA-related policy and operational issues with regional Maintenance Superintendents so ESA issues can continue to be incorporated into the management of area maintenance programs.

Monthly crew safety meetings - These meetings are utilized to discuss ESA-related operational issues with Maintenance Supervisors, Lead Technicians, and other maintenance personnel so ESA issues can continue to be incorporated into the daily delivery of the maintenance program.

Maintenance Academy is generally held twice a year, or more often as needed. This one-week course is held for all newly employed maintenance staff. Currently, a two and one half hour block of time is devoted to environmental impacts of highway maintenance activities. New employees are briefed on ESA BMPs by their supervisory staff and scheduled for ESA 101 training as soon as possible. The content of the environmental portion of the agenda will change to include, at the minimum, the following:

- Environmental Permit & Commitment Compliance



- ESA
- Biological Impacts and Issues
- Water Quality Issues
- Contamination issues
- Maintenance BMPs

Maintenance Leadership Forum – This is a one-week course held for newly promoted lead technicians, supervisors and office managers. Currently, a two-hour block of time is devoted to environmental impacts of highway maintenance activities. The content and time slot for environmental piece of the agenda will change, to include, at the minimum, the following:

- Environmental Permit & Commitment Compliance
- ESA
- Biological Impacts and Issues
- Water Quality Issues
- Contamination issues
- Maintenance BMPs

Disaster Workshop – Conducted on an as needed basis. This workshop event addresses ESA emergency repair countermeasures and associated BMPs.

Annual snow and ice training (Pass Areas) - This training event addresses snow and ice removal considerations under the ESA.

Annual Road & Street Maintenance School (Washington State University) - Presentations at this annual conference are "awareness-level" in nature in order to keep state and local roadway maintenance personnel updated on related ESA issues.

Annual bridge maintenance supervisors meeting - Presentations at this annual meeting are "awareness-level" in nature in order to keep bridge maintenance personnel updated on related ESA issues. More specific training modules will be developed based on General Hydraulic Project Approval (GHPA) for bridge maintenance activities.

### **12.1.3 Hazardous Material Training**

WSDOT has several courses to increase contractor and employee awareness with regard to preventing spills on construction projects. These courses include an introduction to spill prevention, SPCC Plan Reviewer's Training and SPCC Plan Periodic Inspection Training for WSDOT employees and a two-hour spill prevention course and a SPCC Plan Preparation Training for contractors. Additional information is available on the following web site:

[http://www.wsdot.wa.gov/environment/eao/hazmat/haz\\_training.htm](http://www.wsdot.wa.gov/environment/eao/hazmat/haz_training.htm)

## **12.2 Public Education Efforts**

A number of public education efforts are ongoing in WSDOT to encourage adoption of BMPs that affect water quality.

### **12.2.1 Training and Technology Transfer**

WSDOT is recognized as a leader amongst state transportation agencies and our direction is sought by many local government agencies as well as groups in the private sector. Significant resources are expended on transportation research and technology transfer. Innovations are encouraged and promoted through a variety of organized meetings and multi-media learning opportunities. Outreach activities extend far beyond in-house training.



WSDOT offers erosion control, bioengineering, wetlands, and hydraulics courses that include attendees from the private sector and other state and local agencies. Many courses are held in response to updates in WSDOT's manuals.

WSDOT's manuals, standard specifications, and general contracting provisions are often adopted by municipal transportation organizations around the state. The Northwest Technology Transfer Center (T2) is funded by FHWA to provide technology transfer to non-urbanized cities, counties, and others. Outreach activities include workshops, road shows, newsletters, video loans, flyers, reference lists, and an electronic bulletin board. Information on water quality impacts of transportation activities is included in this education effort.

#### **12.2.2 WSDOT Information on the World Wide Web**

As described in section 4.3, WSDOT's Water Quality Unit maintains an Internet site at: <http://www.wsdot.wa.gov/eesc/environmental/WaterQuality.htm> that is used to disseminate information to the public about its current programs. Reports, guidance documents, monitoring data, and the stormwater management program plan will be made available through the Water Quality Unit's web site.

#### **12.2.3 WSDOT's Adopt-A-Highway**

Washington State's Adopt-A-Highway Program is an anti-litter and roadside enhancement campaign intended to promote pride and local ownership in Washington State. It allows individuals and organized groups of citizens and/or businesses to work in partnership with WSDOT by "adopting" a section of state highway and agreeing to help take care of it. There are two options for participation, either as a volunteer group or as a sponsor by hiring professional contractors to accomplish the litter control and/or roadside enhancement.

### **13. Monitoring and Research**

**Statewide Stormwater Application:** *Describe the status of existing monitoring and research programs, and provide a summary of results and conclusions of monitoring and research conducted since July 1995.*

The following section describes WSDOT's monitoring efforts that are currently underway or have been completed during the current NPDES permit cycle. Most of the projects were originally included in the Stormwater Management Program plan (SWMP) (WSDOT 1997) that was developed to meet permit conditions. This section of the application includes a description and summary of findings from stormwater characterization monitoring, BMP effectiveness/performance monitoring, and research monitoring activities that have occurred within the permit period. Summary information pertaining to the status of these projects is also provided in Tables 13-1 through 13-3.

For fiscal year 01-02, WSDOT spent approximately \$53,000 on stormwater characterization and BMP monitoring, \$85,000 on stormwater and BMP research programs, and \$26,000 on stormwater research implementation.

#### **13.1 Existing Monitoring and Research Programs**

Table 13-1 summarizes the active WSDOT monitoring projects as of February 2003. Each of the active projects are further described in the sections below.



**TABLE 13-1. ACTIVE WSDOT MONITORING AS OF FEBRUARY 2003**

Project Name	Status	Project Description
General Characterization	In Progress <ul style="list-style-type: none"> <li>• Monitoring occurring 2001-2003 at selected sites.</li> <li>• Report anticipated in 2003</li> </ul>	This entails characterization of runoff from sites with different traffic volumes.
Vegetated/ Compost Amended Filter Strip -Sleater-Kinney to Marvin	In Progress <ul style="list-style-type: none"> <li>• Monitoring occurring in winter 2003.</li> <li>• Report anticipated in 2003</li> </ul>	Testing treatment effectiveness of vegetated/compost amended filter strips on roadside runoff rates and water quality.
BaySaver US 101	In Progress <ul style="list-style-type: none"> <li>• Monitoring planned for summer 2003</li> <li>• Report anticipated in 2003.</li> </ul>	Characterize accumulated sediments to determine maintenance needs and disposal options.
Ultra-Urban Stormwater Treatment Testing (I-5 Ship Canal Bridge)  This location also serves as characterization site for ultra-high volume >200,000 ADT	In Progress <ul style="list-style-type: none"> <li>• Sampling plans/QAPPs developed during 2002.</li> <li>• Test plan summaries were completed for three technologies in 2002</li> <li>• Performance reports for one new technology expected in 2003.</li> <li>• Long-term research facility.</li> </ul>	Testing of pollutant removal efficiency of four different stormwater treatment components appropriate for confined spaces: Stormvault (Wet vault w/ patented baffle system), Bay Savers/Bay Filter (Multi-chambered gravity separation w/ concentric filter of sand & other media), Aqua Shield/Aqua Filter (Swirl Concentrator w/ filtration chamber), Stormfilter (Vault w/ filtration cartridges).
Pesticide/Priority Pollutant Scans	In Progress <ul style="list-style-type: none"> <li>• Report anticipated in 2003.</li> </ul>	Determine pesticide concentrations in accumulated sediments from long-term characterization sites and others.

### 13.1.1 General Characterization Monitoring

The purpose of this monitoring is to characterize the quality of stormwater runoff from state highways within the permit areas. Since stormwater quality may differ depending upon roadway use, four categories as defined by average daily traffic (ADT) were identified. These included low volume (less than 30,000 ADT), medium volume (30,000 to 100,000 ADT), high volume (100,000 to 200,000 ADT), and ultra-high volume (greater than 200,000 ADT).

Low, medium and high volume sites were selected that were close to Olympia. This was done to improve monitoring efficiency and reduce costs as well as to minimize differences in the character of the rainfall events. The three sites selected for monitoring are described below.

Low Volume: This site is located near MP 15.8 on SR 8 and has an ADT of 18,000 and an estimated total drainage area of 0.34 acres. At the project site SR8 is a four-lane highway with two eastbound and two westbound lanes. Highway runoff flows off the side of the road and is collected by slot drains that routes runoff into underground vaults where the stormwater monitoring equipment was located.

Medium Volume: This site is located near MP 363 on SR 101. It has an ADT of 39,000 and has an estimated drainage area of 3.8 acres. SR 101 in the project vicinity is a four-lane highway; two eastbound and two westbound lanes. Runoff is directed via catch basins and a wide grassy median strip to a culvert that discharges on the north side of the westbound lanes.

High Volume: This site is located near MP106.5 on Interstate 5 in Olympia. It has an ADT of 127,000 and the surface drainage area was estimated to be six acres. In the project area the Interstate is six-lanes wide, with two exit ramps (one in each direction) with inside and outside paved shoulders. Runoff from all



paved areas within the catchment is collected in grate inlets, directed via a series of lateral storm drains to a final trunk line and then to an outfall which discharges to a stormwater treatment facility (Indian Creek Stormwater Park). This facility includes a detention pond, a waterfall, bioswale, and a wetland cell located on the southern side of the highway. The monitoring occurs upstream of the treatment facility. The City of Olympia has recently commenced monitoring effluent leaving the Indian Creek Stormwater Park, but progress has been slow due to repeated vandalism.

This general characterization monitoring effort was initiated in the spring of 2002 after a monitoring and quality assurance/quality control (QA/QC) plan [Envirovision, 2002] was prepared. Automatic samplers were installed in April 2002 and two to three storm events were monitored during May and June. Samples were analyzed for total suspended solids (TSS), total dissolved solids, chemical oxygen demand, hardness, total phosphorous (TP), 5-day biochemical oxygen demand, nitrate/nitrite, and the metals cadmium, copper, lead and zinc. Grab samples were analyzed for total petroleum hydrocarbons and Ortho-Phosphates. QA/QC checks have been made for all results and the data was entered into a database. Although the data set derived from the spring 2002 effort was limited, a preliminary comparison of findings indicated that pollutant levels were either below the published range of the historical mean concentrations for these constituents or were present at values at or near the low end of the range.

Stormwater sampling resumed in the 2002/2003 wet weather season. To date, four additional storm events have been monitored. QA/QC checks have been performed on these samples and the data entered into the database. Two more storm events are targeted before the end of the wet weather season. These results must be obtained before a summary is prepared.

Characterization monitoring is also being performed at an ultra-high volume site located on I-5 at the Ship Canal Bridge in Seattle. This site has an ADT of 214,000 and a surface area of approximately 36 acres. This is also the location of the ultra-urban stormwater technology testing facility that is summarized below.

#### **13.1.2 Vegetated/Compost Amended Filter Strip Runoff Monitoring**

Beginning in the wet weather season of 2002/2003 stormwater runoff samples have been collected from a site on I-5 near the Martin Way exit in Lacey to assess runoff conditions from a compost amended vegetated filter strip. Although attempts have been made to collect samples during five precipitation events, only two samples have been collected. This is due to the very low volumes of runoff being generated from the site, which prevents enough head to be generated in the culvert to be measured by automated samplers. This is indirect evidence that this approach to treating roadsides may be effective for reducing the quantity of runoff generated. Two more storm events are targeted; these results must be obtained before a summary is prepared.

#### **13.1.3 BaySaver Monitoring at US 101, Port Angeles**

A third component of stormwater characterization monitoring activities is associated with the installation of a relatively new stormwater facility known as Baysavers®. WSDOT has been monitoring these facilities to determine life cycle maintenance requirements. A monitoring plan completed in 2001 presents the procedures for monitoring Baysaver® Separation Systems installed at five locations along US 101 within the City of Port Angeles, in Clallam County [WSDOT 2001(d)]. Monitoring was scheduled for completion in 2003. A final report of the results will be completed at the conclusion of the monitoring effort.

#### **13.1.4 Ultra-Urban Stormwater Technology Test Facility**

This test facility was constructed for the ongoing testing and evaluation of new stormwater treatment technologies, so that they can be considered for use in highway applications. A summary of the facility design was provided in the NPDES Phase I permit 5<sup>th</sup> year report [WSDOT 2000] and a summary of the first four technologies selected for evaluation was provided in the 6<sup>th</sup> year report [WSDOT 2001].



Since 2002, four stormwater treatment devices have been installed for testing at the test facility. The test facility is located underneath the I-5 Lake Union Ship Canal Bridge in downtown Seattle, and represents ultra-high ADT conditions. The facility is designed to collect highway runoff from the north half of the bridge, and through the use of flow splitters and pipes the flow is routed to four test bays. The intent of the project is to test one stormwater device at each of the four test bays.

During 2002, three devices were installed: the Jensen Precast Stormvault™ in Test Bay 1 ([www.jensenprecast.com](http://www.jensenprecast.com)); the BaySaver® Separation System ([www.baysaver.com](http://www.baysaver.com)) in Test Bay 2; and the Aqua-Filter™ unit by AquaShield™, Inc. ([www.aquashieldinc.com](http://www.aquashieldinc.com)) in Test Bay 3. Test plan summaries were completed for the three technologies. In addition, at Bay 1 (Stormvault™), installation of the monitoring equipment, the hydraulic preliminary evaluation, draft Quality Assurance Project Plan (QAPP), and testing of one storm event were completed in 2002. Due to changes in available funding, work at the test facility was temporarily stopped during May-July 2002. Funding for August 2002 through July 2003 was secured to complete installation and testing of the StormFilter®, ([www.stormwatermgt.com](http://www.stormwatermgt.com)), in Test Bay 4. Performance and verification reports for the StormFilter® are expected to be completed in the 2003 calendar year.

Additional funding for testing of the other three technologies is being pursued. If funding for testing at Bays 1-3 is secured, the work needed to complete testing is expected to begin again.

The project is unique among most stormwater treatment technology evaluations in that it will evaluate pollutant removal efficiency of the technologies as a function of flow rate (for flow-through technologies only) and pollutant concentration entering the units. The sampling plan for each test bay will be adapted to the unique features of each technology.

#### 13.1.5 Pesticide/Priority Pollutant/Scans

Catch basin sampling locations on US 101 at MP 363 and on Interstate 5 at MP 106 in Olympia are currently being utilized as part of the stormwater pesticide and priority pollutant metals characterization monitoring program. An additional sampling location for this effort is on Interstate 5 at the Ship Canal Bridge Ultra-urban Stormwater Technology Testing Facility in Seattle. Sampling activities were performed at these locations in June 2002.

Analytical results for the priority pollutant metals indicated that chromium, copper, lead, nickel, and zinc were present in all catch basin samples at concentrations exceeding laboratory practical quantification limits. The reported concentrations of chromium and nickel were all below the 90<sup>th</sup> percentile background values for these inorganic elements published for the Puget Sound region in the document entitled *Natural Background Soil Metals Concentration in Washington State* (Ecology Publication No. 94-115, dated October 1994). The reported concentrations of copper, lead, and zinc at the US 101 and Interstate 5 locations in Olympia were also below or comparable to the published natural background concentrations, while the concentrations at the Ship Canal Bridge sample station exceeded background values for these elements.

Review of the results for the pesticide analyses indicated that the chlorinated acid herbicide compound dichloroprop was detected in both the US 101 catch basin and the Interstate 5 Ship Canal Bridge catch basin samples. Levels of dichloroprop ranged from 88 micrograms/kilogram (µg/kg) at US 101 to 260 µg/kg at the Interstate 5 Ship Canal Bridge location. Dichloroprop is a common constituent in a variety of commercial herbicides. For comparative purposes, the concentration of this compound that has been published by Ecology as being protective of terrestrial plants and animals is 700 milligrams/kilogram (mg/Kg) (WAC 173-340-900). No other chlorinated acid herbicides or organochlorine pesticide



constituents were detected in the samples analyzed at concentrations above laboratory reporting limits. One more pesticide and priority pollutant monitoring event is scheduled for 2003.

### 13.2 Previously Conducted Monitoring and Research

Table 13-2 summarizes WSDOT monitoring projects that have been previously completed. For a summary of results and conclusions of these monitoring projects, the noted annual reports (previously submitted to Ecology) should be consulted. Table 13-3 describes non-active or replaced WSDOT monitoring projects and lists the current status of each project.

<b>TABLE 13-2. WSDOT MONITORING PROJECTS PREVIOUSLY COMPLETED AND SUMMARIZED</b>		
<b>Project Name</b>	<b>Status</b>	<b>Project Description</b>
Microtox Testing	Canceled due to low benefit • Summarized in 2001 NPDES Report.	Evaluation of stormwater and receiving water toxicity.
Vegetated Stormwater Facility Maintenance	Completed • Summarized in the 2001 NPDES Report.	Assess routine highway ditch cleaning alternatives to evaluate conditions benefiting water quality and assess restabilization and revegetation options.
Infiltration BMP Research, I-5 at Dupont	Completed [Ames, et. al. 2001] • Summarized in the 1999, 2000, and 2001 NPDES Annual Reports.	Originally used gypsum soil additives to limit infiltration rates in infiltration basins. However, the project shifted to developing a filtration media that could be used to top-dress infiltration basins.
Contaminant Detention in Highway Grass Filter Strips - SR 8	Completed (Yonge 2000) • Summarized in the 1999 and 2001 NPDES Annual Reports.	Investigation of potential for vegetated highway shoulders with different surface soils to remove pollutants.
Road Shoulder Treatments	Completed (Matthias et al. 1997) • Summarized in the 2001 NPDES Report.	Test different shoulder treatments (conventional asphalt, gravel, or porous asphalt) to determine which yields the least quantity of runoff with the highest quality.
Ecology Embankment/ Trench Filter, SR 167@ Kent and Auburn	Completed [Taylor and Assoc. 2002] • Summarized in the 2001 NPDES Report.	Evaluate effectiveness of media filtration in roadway embankments for pollutant removal.
Vortechs Swirl Concentration System SR 405	Completed [Taylor and Assoc. 2002(b)] • Summarized in the 2001 NPDES Report.	Evaluation of the pollutant removal effectiveness of a Vortech unit.
Dry Well Retrofit System – Spokane	Report in Progress • Summarized in the 2001 NPDES Report. • Report due in 2003.	Investigate a drywell retrofit strategy using SPRIB treatment media developed by the USGS.
PAM for Soil Erosion Control (SR 8)	Completed • Summarized in the 1999 NPDES Report.	Tested the performance of PAM to abate soil erosion and improve soil texture. Evaluated the optimum dosing method and application rates for prevention of erosion to exposed soils as evaluated through runoff turbidity data.
PAM Flocculant Dissolution	Completed • Summarized in the 1999 and 2000 NPDES Annual Reports.	Rate testing conducted for an Experimental Passive Dosing System to reduce stormwater turbidity.



<b>TABLE 13-3. NON-ACTIVE or REPLACED WSDOT MONITORING PROJECTS</b>		
<b>Project Name</b>	<b>Status</b>	<b>Project Description</b>
Bike Path Runoff Characterization I 5	Non Active	Characterization of bike path runoff. This project was requested by the regional project office and is not related to any specific NPDES requirement.
Stormceptor Vaults SR 522	Non Active • Monitoring canceled due to hazardous location.	Pollutant removal effectiveness testing on installed facilities.
Ecology Ditch SR 5 Mountlake Terrace	Possible future testing. • No new installations to test.	Evaluate the effectiveness of the use of this treatment mechanism (a bioswale underlain with perforated pipe and sand).
I-5 / North Clark County Stormwater Characterization – Low Impervious Surface	Canceled • New site identified at US 101 near Olympia	Characterize stormwater runoff from a site with a medium ADT volume.
I-5 Vancouver	Canceled • New site identified at I-5 in Olympia	Characterize stormwater runoff from a site with a high ADT volume.
S. Snohomish Co. Multi-cell Wetpond Evaluation	Canceled • Not prioritized for funding.	Evaluate treatment effectiveness of a multi-cell wetpond with a constructed wetland.



March 10, 2003

### Part III. Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

**Authorized Representative Name:** Douglas B. MacDonald

**Title:** Secretary of Transportation

**Signature:**



**Date:**

3/27/03



## APPENDIX I.

### ABBREVIATIONS\*:

**BMP** Best Management Practice

**CWA** Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972)

**MEP** Maximum Extent Practicable

**MS4** Municipal Separate Storm Sewer System

**NPDES** National Pollutant Discharge Elimination System

**O&M** Operation and Maintenance

**SWPPP** Stormwater Pollution Prevention Plan

**SWMP** Stormwater Management Program

**TMDL** Total Maximum Daily Load

**WSDOT** Washington State Department of Transportation



**DEFINITIONS\*:**

**Authorized Representative:** *For a municipality, State, Federal, or other public agency:* (a) By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal Agency includes (i) the chief executive officer of the Agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the Agency (e.g., Regional Administrators of EPA).

(b) All reports required by permits, and or other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person.

**Best Management Practices (BMPs):** The schedules of activities, prohibitions of practices, maintenance procedures, and structural and/or managerial practices, that when used singly or in combination, prevent or reduce the release of pollutants and other adverse impacts to waters of Washington State.

**Clean Water Act (Water Quality Act):** (formerly the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972). Public law 92-500; 33 U.S.C. 1251 et seq.; legislation which provides statutory authority for the NPDES program. Also known as the Federal Water Pollution Control Act.

**Conveyance:** A mechanism for transporting water from one point to another, including pipes, ditches, and channels.

**Detention Facility:** An above or below ground facility, such as a pond or tank, that temporarily stores stormwater runoff and subsequently releases it at a slower rate than it is collected by the drainage facility system. There is little or no infiltration of stored stormwater.

**Discharge:** Runoff via overland flow, built conveyance systems, or infiltration facilities. A hydraulic rate of flow, specifically fluid flow; a volume of fluid passing a point per unit of time, commonly expressed as cubic feet per second, cubic meters per second, gallons per minute, gallons per day, or millions of gallons per day.

**Erosion:** The wearing away of the land surface by running water, wind, ice, or other geological agents, including such processes as gravitational creep. Erosion occurs naturally but can be intensified by land clearing activities such as farming, development, road building, and timber harvesting.

**Illicit Connection:** Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater and is not authorized by an NPDES permit, with some exceptions (e.g., discharges due to fire fighting activities).

**Interconnected:** See Physically Interconnected

**Maximum Extent Practicable (MEP):** A standard for water quality that applies to all MS4 operators regulated under the NPDES Stormwater Program. Since no precise definition of MEP exists, it allows for maximum flexibility on the part of MS4 operators as they develop and implement their programs.

**Municipal Separate Storm Sewer System (MS4):** A publicly -owned conveyance or system of conveyances that discharges to waters of the U.S. and is designed or used for collecting or conveying stormwater, is not a combined sewer, and is not part of a publicly-owned treatment works (POTW).

**New Development:** Land disturbing activities, including Class IV - general forest practices that are conversions from timber land to other uses; structural development, including construction or installation of a building or other structure; creation of impervious surfaces; and subdivision, short subdivision and binding site plans, as defined and applied in Chapter 58.17 RCW. Projects meeting the definition of redevelopment shall not be considered new development.



**NPDES:** “National Pollutant Discharge Elimination System” the name of the surface water quality program authorized by Congress as part of the 1987 Clean Water Act. This is EPA program to control the discharge of pollutants to waters of the United States (see 40 CFR 122.2).

**Outfall:** Means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the State and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the State and are used to convey waters of the State. The point where wastewater or drainage discharges from a sewer pipe, ditch, or other conveyance to a receiving body of water.

**Physically interconnected MS4:** This means that one MS4 is connected to a second MS4 in such a way that it allows for direct discharges into the second system.

**Pollutant Loading:** The total quantity of pollutants in stormwater runoff.

**Redevelopment:** On a site that is already substantially developed (i.e., has more than 35% or more of existing impervious surface coverage), the creation or addition of impervious surfaces; the expansion of a building footprint or addition or replacement of a structure; structural development including construction, installation or expansion of a building or other structure; replacement of impervious surface that is not part of a routine maintenance activity; and land disturbing activities.

**Regional:** An action (here, for stormwater management purposes) that involves more than one discrete property.

**Regional Detention Facility:** A stormwater quantity control structure designed to correct the existing surface water runoff problems of a basin or subbasin. The area downstream has been previously identified as having existing or predicted significant and regional flooding and/or erosion problems. This term is also used when a detention facility is sited to detain stormwater runoff from a number of new developments or areas within a catchment

**Regulated MS4:** Any MS4 covered by the NPDES Stormwater Program (regulated small, medium, or large MS4s).

**Retention:** The process of collecting and holding surface and stormwater runoff with no surface outflow.

**Retention/detention facility (R/D):** A type of drainage facility designed either to hold water for a considerable length of time and then release it by evaporation, plant transpiration, and/or infiltration into the ground; or to hold surface and stormwater runoff for a sort period of time and then release it to the surface and stormwater management system.

**Retrofit:** The modification of stormwater management systems through the construction and/or enhancement of wet ponds, wetland plantings, or other BMPs designed to improve water quality

**Runoff:** Water originating from rainfall and other precipitation that is found in drainage facilities, rivers, streams, springs, seeps, ponds, lakes and wetlands as well as shallow ground water.

**Sediment:** Soil, sand, and minerals washed from land into water, usually after rain.

**Stormwater:** means stormwater runoff, snow melt runoff, and surface runoff and drainage.

**Stormwater Management:** Functions associated with planning, designing, constructing, maintaining, financing, and regulating the facilities (both constructed and natural) that collect, store, control, and/or convey stormwater.

**Stormwater Pollution Prevention Plan (SWPPP):** A plan to describe a process whereby a facility thoroughly evaluates potential pollutant sources at a site and selects and implements appropriate measures designed to prevent or control the discharge of pollutants in stormwater runoff.



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**Total Maximum Daily Load (TMDL):** The maximum amount of pollutants which can be released into a water body without adversely affecting the water quality.

**Urban Runoff:** Stormwater from urban areas, which tends to contain heavy concentrations of pollutants from urban activities.

**Watershed:** That geographical area which drains to a specified point on a watercourse, usually a confluence of streams or rivers (also known as drainage area, catchment, or river basin).

\*The following references were used in these sections:

- *Stormwater Phase II Compliance Assistance Guide*; United States Environmental Protection Agency, Office of Water; March 2000; Publication # EPA 833-R-00-002.
- *40 Code of Federal Regulations, part 122.22, (3), and part 122.26*; United States Environmental Protection Agency.
- *Stormwater Management Manual for Western Washington*; Washington State Department of Ecology; August 2001; Publication # 99-11 through 99-13.
- *Low Impact Development in Puget Sound*; Innovative Stormwater Management Practices, a conference sponsored by the Puget Sound Water Quality Action Team and King County Department of Natural Resources through a Water Works Grant.
- *Low Impact Development Design Strategies, An Integrated Design Approach*; Prince Georges County, Maryland, Department of Environmental Resources; June 1999.



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## Exhibit 1 - Maps

